

Yale University
UNIVERSITY HEALTH SERVICES
HEALTH PHYSICS DIVISION

RECEIVED BY LFMB
Date... 6/19/85
Log... Line 13-I
By... Jacques
Orig. To...
Action Compl. 4/20/85

June 5, 1985

314 Wright Nuclear Structure
Laboratory, West
260 Whitney Avenue
Post Office Box 6666
New Haven, Connecticut 06511
Area Code 203-436-2935

Ms. Jenny Johansen
Nuclear Regulatory Commission
Region I Material Licensing Section
631 Park Avenue
King of Prussia, Pa. 19406

Dear Ms. Johansen:

Subject: Amendments License No. 06-00183-03

This correspondence represents an application for two license amendments to the Yale University broad license no. 06-00183-03. First, we specifically request that Item 6, sub-part W. be amended as follows:

W. Americium 241 W. Any Sealed Source W. 40 curies, no
source to exceed
10 curies

Such sources are used for research and development at the University and the specification of a particular model number, as in the present license, inhibits the research effort significantly. We will supply any further details you may require in processing this amendment.

Secondly, this is a request to add the decay in storage provision to our license. With the questionable availability of disposal sites, we are planning for the scenario where we may be forced to store radioactive waste on site on an interim basis. It seems prudent to utilize the decay in a storage provision. The present waste processing area (WNSL-West High Bay Area, diagram on file with the Nuclear Regulatory Commission), will be renovated to allow for the interim storage. The area will be exclusive use of the Health Physics Division with only occasional supervised access by maintenance personnel, or Physics Department personnel to use the overhead crane.

The storage area will be monitored on a weekly basis and records will be maintained. Waste which will be held for 10 half-lives for decay will then be moved to an area of low background and monitored with a laboratory type survey meter. The material will be discarded as trash if indistinguishable from background. Records will be maintained. Radioactive waste labels will be removed and/or obliterated from outer containers, and destroyed on solid waste by the compaction process. Microcurie amounts of I-125 waste will be held for 5 half-lives and processed in a similar fashion.

LIC. FEE MGMT. BRANCH

8508290363 850722
REG. LIC30
06-00183-03 PDR

FEE EXEMPT

"OFFICIAL RECORD COPY"

03953

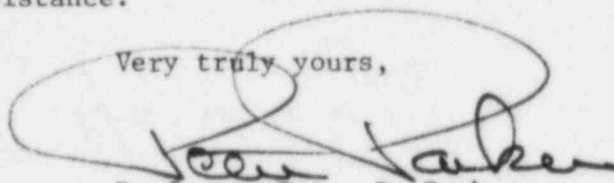
ML10 JUN 12 1985

Waste with longer half-lives such as tritium and carbon 14 will be held until regional disposal sites are available. If interim access at the Hanford, Washington site is available, certain waste will continue to be shipped for burial through a licensed broker as we are now doing on a routine basis. Please contact me if there are questions.

I have enclosed a copy of the curriculum vitae for Dr. Bruce Pitt, a new member of the Yale University Radiation Safety Committee. Dr. Pitt replaces Dr. Robert Cone who has resigned from the University.

Thank you for your assistance.

Very truly yours,

A handwritten signature in dark ink, appearing to read "Peter D. Parker", is written over a large, faint circular stamp. The signature is fluid and cursive.

Professor Peter D. Parker
Chairman, Radiation Safety Committee

PDP:cm
Enclosure

cc: George R. Holeman

CURRICULUM VITAE

PERSONAL:

Name: Bruce R. Pitt

Social Security number: 108-36-9778

Business Address:

Department of Anesthesiology
Yale University School of Medicine
333 Cedar Street
New Haven, Connecticut 06510
Telephone: (203) 785-2804

Home Address:

219 Whitethorn Drive
Guilford, Connecticut 06437
Telephone: (203) 453-3699

Date of Birth: March 13, 1949

Place of Birth: New York, New York

Marital Status:

Married (Shayna F. Pitt)

Children: Allyson S. (June 23, 1977)
Artaur L. (March 31, 1979)

EDUCATION:

<u>Institute and Location:</u>	<u>Degree</u>	<u>Year</u>	<u>Major Area</u>
Dept. Environmental Health Sciences The Johns Hopkins University Baltimore, Maryland	Ph.D.	1977	Cardiopulmonary Physiology
Dept. Environmental Health Sciences The Johns Hopkins University Baltimore, Maryland	M.H.S.	1972	Environmental Health Science
Brown University, Providence, R.I.	B.A.	1970	Human Biology

EXPERIENCE:

<u>Place</u>	<u>Years</u>	<u>Description</u>
Department of Anesthesiology Yale University School of Medicine New Haven, Connecticut	1981-present	Assistant Professor
Department of Surgery Yale University School of Medicine New Haven, Connecticut	1979-1981	Research Associate
Institute of Environmental Medicine New York University Medical Center New York, New York	1977-1978	Postdoctoral trainee in the physiology of lung clearance
Dept. Environmental Health Science The Johns Hopkins University Baltimore, Maryland	1972-1973	Research technician

HONORS AND AWARDS

New Investigators Research Award, National Institute of Health,
Heart, Lung and Blood Institute, 1982-1985

Parker B. Francis fellow in Pulmonary Research, 1982-1985

SOCIETIES:

American Physiological Society

PUBLICATIONS

1. Radford, E.P., Pitt, B.R., Halpin, B.R., Caplan, Y., Fisher, R. and Schweda, P. Study of fire deaths in Maryland. In: Physiological and Toxicological Aspects of Combustion Products. Washington, D.C.: National Acad. of Science, 1976, pp. 26-35.
2. Pitt, B.R., Radford, E.P., Gurtner, G.G. and Traystman, R.J. Interaction of carbon monoxide and cyanide on cerebral circulation and metabolism. Arch. Environ. Hlth. 34: 354-359, 1979.
3. Pitt, B.R., Gillis, C.N. and Hammond, G.L. Influence of the lung on arterial levels of endogenous prostaglandins E and F. J. Appl. Physiol. 50: 1161-1167, 1981.
4. Yeates, D.B., Pitt, B.R., Karron, G. and Albert, R.E. Coordination of mucociliary transport in the human trachea and lung. J. Appl. Physiol. 51: 1057-1064, 1981
5. Yeates, D.B., Spekter, D.M., Leikauf, G.M. and Pitt, B.R. Effect of drugs on mucociliary transport in the trachea and bronchial airways. Chest 80: 870-873, 1981
6. Altieri, R.J., Pitt, B.R. and Gillis, C.N. Separation of prostaglandin E1 from its major metabolites: Application of the technique to measure first-pass clearance of PGE1 in the pulmonary and cerebral circulations of the anesthetized dog. Biochem. Pharmacol. 30: 2953-2961, 1981.
7. Flink, J.R., Pitt, B.R., Hammond, G.L. and Gillis, C.N. Selective effect of microembolization on pulmonary removal of biogenic amines. J. Appl. Physiol. 52: 421-427, 1982.
8. Gillis, C.N. and Pitt, B.R. The fate of circulating amines within the pulmonary circulation. Ann. Rev. Physiol. 44: 269-281, 1982.

9. Gillis, C.N., Pitt, B.R. and Lister, G. Disposition of vasoactive hormones in the lung: developmental aspects and response to injury. In: Cardiovascular Sequelae of Asphyxia in the Newborn. Proc. 83rd Ross Symposium on Pediatric Research. pp 51-58, 1982.
10. Gewitz, M., Pitt, B.R., Laks, H., Hammond, G.L., Talner, N.S., and Gillis, C.N. Reversible changes in norepinephrine extraction by lungs in children with pulmonary hypertension. Pediatric Pharmacology 2: 53-60, 1982
11. Pitt, B.R., Hammond, G.L. and Gillis, C.N. Depressed pulmonary removal of prostaglandin E1 after prolonged cardiopulmonary bypass. J. Appl. Physiol. 52: 887-892, 1982.
12. Pitt, B.R., Hammond, G.L. and Gillis, C.N. Comparison of pulmonary and extrapulmonary amine extraction. J. Appl. Physiol. 52: 1545-1551, 1982.
13. Pitt, B.R. and Lister, G. Pulmonary metabolic function in the awake lamb: effect of development and hypoxia. J. Appl. Physiol. 55: 383-391, 1983
14. Pitt, B.R., Forder, J.R. and Gillis, C.N. Drug-induced impairment of pulmonary removal of 3H-Prostaglandin E1 in vivo. J. Pharmacol. Exp. Ther. 227: 531-537, 1983.
15. Lister, G. and Pitt, B.R. Cardiopulmonary interactions in the infant with congenital heart disease. Clinics in Chest Medicine. 4: 219-232, 1983.
16. Pitt, B.R. Metabolic functions of the lung and systemic vasoregulation. Fed. Proc. 43: 2574-2577, 1984
17. Lister, G., Kopf, G.S. and Pitt, B.R. Functional assessment of the pulmonary microcirculation during postnatal development. Ped. Pharmacol. 4: 85-99, 1984.
18. Pitt, B.R. and Lister, G. Kinetics of angiotensin-converting enzyme in the conscious newborn lamb. J. Appl. Physiol. 57: 1158-1166, 1984.
19. Yeates, D.B., Larkridge, C.G., Marrinelli, A., Harshbarger, R.D., Musselman, R.P., Pitt, B.R., Raju, T.N., Gerrity, T.R. and Lourenco, R.V. Unsedated animal models of pulmonary mucociliary transport. Biorheology 21: 273-283, 1984
20. Pitt, B.R., Gillis, C.N. and Hammond, G.L. Depressed lung metabolism after cardiopulmonary bypass and elevated arterial norepinephrine. Ann. Thor. Surg. 38: 508-513, 1984
21. Chen, X., Pitt, B.R., Moalli, R. and Gillis, C.N. Correlation between lung and plasma angiotensin converting enzyme and the hypotensive effect of captopril in conscious rabbits. J. Pharmacol. Exp. Ther. 229: 649-653, 1984
22. Ashton, J.A., Pitt, B.R. and Gillis, C.N. Apparent kinetics of angiotensin-converting enzyme: hydrolysis of 3H-benzoyl-pnenylalanyl-alanyl-proline in the isolated perfused lung. J. Pharmacol. Exp. Ther. In Press, 1985

23. Linehan, J.H., Dawson, C.A., Rickaby, D.A., Bronikowski, T.A., Gillis, C.N. and Pitt, B.R. Pulmonary endothelial angiotensin-converting enzyme kinetics. In: Carrier-mediated transport of solutes from blood to tissue. Edited by: Yudilevich, D.L. and Mann, G.E. In Press, 1985
24. Gillis, C.N., Dawson, C.A., Linehan, J.H., Rickaby, D.A. and Pitt, B.R. Pulmonary endothelial serotonin removal. In: Carrier-mediated transport of solutes from blood to tissue. Edited by: Yudilevich, D.L. and Mann, G.E. In Press, 1985

Manuscripts submitted or in preparation:

1. Pitt, B.R., Lister, G., Dawson, C.A. and Linehan, J.H. Effect of hypoxia and hypercapnia on angiotensin converting enzyme activity in the cerebral microcirculation of anesthetized dogs.
2. Moalli, R.M., Pitt, B.R. and Gillis, C.N. Interdependence of metabolism and perfusion in the isolated perfused rabbit lung.
3. Pitt, B.R., Moalli, R., Man, S.F.P and Gillis, C.N. Alveolar transfer of prostaglandin E2 in isolated perfused guinea pig lung.
4. Pitt, B.R., Moalli, R. and Gillis, C.N. Apparent kinetics of pulmonary removal of prostaglandin E1 after microembolization in anesthetized rabbits.

ABSTRACTS

1. Pitt, B.R. and Traystman, R.J. The effects of cyanide on cerebral hemodynamics. Fed. Proc. 35: 721, 1976
2. Menkes, H.A., Traystman, R.J., Terry, P.B., Batra, G.K., Pitt, B.R. and O'Neill, J.T. The effect of pulmonary vascular pressures and flow on collateral ventilation. Fed. Proc. 35: 393, 1976
3. Traystman, R.J. and Pitt, B.R. The role of arterial and venous oxygen tension in the control of cerebral blood flow. Stroke 8: 10, 1977
4. Pitt, B.R. and Traystman, R.J. The interaction of cyanide and carbon monoxide on cerebral hemodynamics. Fed. Proc. 36: 439, 1977.
5. Traystman, R.J. and Pitt, B.R. Cerebral arterial and venous oxygen tension and the regulation of cerebral blood flow. Fed. Proc. 37: 572, 1978.
6. Yeates, D.B., Pitt, B.R., Spektor, D., Karron, G. and Albert, R.E. Tracheal mucociliary transport and its relationship to bronchial clearance in man. Amer. Rev. Resp. Dis. 117: 267, 1978.
7. Spektor, D.M., Pitt, B.R. and Yeates, D.B. Changes in regional mucociliary transport in the human lung resulting from systemic beta 2 adrenergic stimulation. Amer. Rev. Resp. Dis. 119: 236, 1979.
8. Yeates, D.B., Spektor, D.M. and Pitt, B.R. Discontinuity of pulmonary mucociliary transport due to metaproterenol sulfate. Physiologist 22: 136, 1979.
9. Gewtitz, M., Pitt, B., Laks, Hammond, G.L., Talner, N. and Gillis, C.N. Reversible effect of pulmonary hypertension on extraction of endogenous catecholamines by the pulmonary vasculature. In: Paediatric Cardiology, 1980
10. Pitt, B.R., Gillis, C.N. and Hammond, G.L. Effect of altered cardiac output on pulmonary amine extraction. Fed. Proc. 39: 964, 1980.
11. Flink, J.R., Pitt, B.R., Hammond, G.L. and Gillis, C.N. Selective effect of microembolization on pulmonary clearance of biogenic amines. Amer. Rev. Resp. Dis. 123: 235, 1981.
12. Pitt, B.R., Gillis, C.N. and Hammond, G.L. Depressed pulmonary extraction of 3H-prostaglandin E1 (3H-PGE1) following prolonged cardiopulmonary bypass in dogs. Fed. Proc. 40: 591, 1981.
13. Flink, J.R., Pitt, B.R., Lister, G. and Gillis, C.N. Depressed pulmonary metabolism after microembolization. Am. Rev. Resp. Dis. 125: 235, 1982.
14. Williams, S.K. and Pitt, B.R. Disposition of C-5-hydroxytryptamine in isolated capillary endothelium. Microvasc. Res. 23: 277, 1982.
15. Forder, J.R., Pitt, B.R., and Gillis, C.N. Drug-sensitivity of pulmonary removal of 3H-prostaglandin E1 (3H-PGE1) in vivo. Fed. Proc. 41: 1133, 1982

16. Lister, G. and Pitt, B.R. Pulmonary metabolic function in the conscious lamb. Fed. Proc. 41: 994, 1982.
17. Pitt, B.R. and Lister, G. Kinetics of angiotensin-converting enzyme activity in the conscious newborn lamb. Fed. Proc. 41: 1749, 1982.
18. Lister, G. and Pitt, B.R. Pulmonary metabolic function in the conscious lamb. Pediatric Research: 16: 394A, 1982.
19. Ashton, J.A., Pitt, B.R., Klay, J.W. and Gillis, C.N. Pharmacokinetics of angiotensin-converting enzyme (ACE) in isolated perfused rabbit lungs. Fed.Proc. 42: 593, 1983.
20. Moalli, R., Ashton, J.A., Pitt, B.R., and Gillis, C.N. Effect of airway pressure (Paw) on pulmonary angiotensin-converting enzyme (ACE) activity in isolated perfused rabbit lung. Fed.Proc. 42: 620, 1983.
21. Pitt, B.R., Lister, G. and Linehan, J.H. Apparent kinetics of angiotensin-converting enzyme (ACE) activity in the cerebral microcirculation. Fed.Proc. 42: 305, 1983.
22. Gillis, C.N., Pitt, B.R. and Hammond, G.L. Depressed pulmonary removal of prostaglandin E1 in patients with respiratory failure. Circulation 68: III-401, 1983
23. Rothstein, P. and Pitt, B.R. Pulmonary extraction of bupivacaine and its modification by propranolol. Anesthesiology 59: A189, 1983.
24. Pitt, B.R. and Lister, G. Kinetics and pulmonary angiotensin-converting enzyme activity in conscious newborn lamb. Anesthesiology 59: A455, 1983.
25. Pitt, B.R., Moali, R., Man, P. and Gillis, C.N. Alveolar clearance of 3H-prostaglandin E2 (3H-PGE2) in isolated perfused guinea pig lungs. Fed.Proc. 43: 1002, 1984
26. Linehan, J., Dawson, C., Rickaby, D., Gillis, N. and Pitt, B. Pulmonary endothelial angiotensin-converting enzyme kinetics determined from indicator dilution experiments. Fed. Proc. 43: 920, 1984
27. Pitt, B.R., Moali, R. and Gillis, C.N. Apparent kinetics of pulmonary removal of prostaglandin E1 (PGE1) after microembolization in anesthetized rabbits. Am.Rev.Resp.Dis. 129: A350, 1984
28. Ment, L.R., Stewart, W.B., Duncan, C.C. and Pitt, B.R. Prostaglandin-mediated control of neonatal cerebral blood flow. Pediat. Res.
29. Pitt, B.R., Flink, J.R., Lister, G.L. and Gillis, C.N. Depressed pulmonary metabolic function after experimental microembolization. Anesthesiology 60: A500, 1984
30. Rothstein, P.R., Cole, J.S. and Pitt, B.R. Pulmonary extraction of bupivacaine is dose-dependent. Anesthesiology 60: A236, 1984

RESEARCH SUPPORT

<u>Agency</u>	<u>Title of Grant</u>	<u>Budget</u>	<u>Period of Award</u>
NIH	Comparison of hormone clearance by lung and brain. (New Investigators Research Award HL-27329)	\$106,278 (Current: \$37,278)	1/82-12/84
Parker B. Francis Foundation	Postnatal development of pulmonary metabolic function	75,000 (Current: \$25,000)	7/82-6/85
Whitaker Foundation	Quantitative Assessment of the Pulmonary Microcirculation	132,656 (Current: \$47,319)	7/84-6/87
NIH	Postnatal development of the pulmonary microcirculation	296,114 (Current: \$96,991)	4/84-3/87

RESEARCH INTERESTS

1. Pharmacology and physiology of pulmonary metabolic function
2. Comparative endothelial cell physiology (cerebral, pulmonary, skeletal muscle)
3. Pharmacology and physiology of pulmonary circulation of newborn
4. Alveolar clearance mechanisms

INVITED SPEAKER:

1. NIH Workshop, "Arachidonic acid metabolism and the pulmonary circulation" Sept. 1982, Bethesda, Md.
2. American Society Pharmacology and Experimental Therapeutics Symposium "Consequences of pulmonary accumulation of drugs" Annual Meeting FASEB, April, 1983, Chicago, Ill.
3. Warner-Lambert Parke-Davis Company, Ann Arbor, Michigan Oct., 1983
4. Department of Pulmonary Medicine, The Medical College of Georgia Augusta, GA, Oct., 1983
5. Department of Anesthesia and Critical Care Medicine, The Johns Hopkins University School of Medicine, Baltimore, MD Feb. 1984
6. Department of Physiology, Brown University School of Medicine, Providence, R.I. October, 1984

BETWEEN: William O. Miller, Chief
License Fee Management Branch
Office of Administration

John E. Glenn, Chief
Nuclear Materials Section B
Division of Engineering and
Technical Programs

LICENSE FEE TRANSMITTAL

A. REGION I

Fee Exempt

1. APPLICATION ATTACHED

Applicant/Licensee: Yale University

Application Dated: 6/5/85

Control No.: 03953

License No.: 06-00183-03

2. FEE ATTACHED

Amount: 0

Check No.: 0

3. COMMENTS

Signed Brenda P. Latchek

Date 6/13/85

01100

B. LICENSE FEE MANAGEMENT BRANCH

1. Fee Category and Amount: EX 3M

2. Correct Fee Paid. Application may be processed for:

Amendment ✓

Renewal

License

Signed G. Jackson

Date 6/20/85

9/87