

ISO/
SERVE

Inc.

5552

cmk

131 Portland Street
Cambridge 39, Mass.
UNiversity 4-4423
4-4424

October 10, 1960

Mr. Cecil R. Buchanan
Isotopes Branch
Division of Licensing and Regulation
U.S. Atomic Energy Commission
Washington 25, D.C.

Dear Mr. Buchanan:

We are glad to supply you with the additional information which you requested by telephone, today, with regard to our license application.

I am a full time employee of Isoserve, Inc., and will be the health physicist with the on-the-job responsibility of seeing that the facility is operated in a safe manner, consistent with good health physics practices. My training and experience in health physics is indicated in the license application.

In addition, Harold B. Carter, whose experience and training is detailed under the license application, will be directly involved in the facility operation. His health physics capability has been recognized by his having been given responsibility for the safe operation of the Isotope Laboratory at the Massachusetts General Hospital. Mr. Carter will be working full time before the initiation of the short lived isotopes program.

The nuclear facility will be located at the same location as the company address. This is a second floor area of about 3500 square feet in size. The enclosed sketch indicates the areas of activity and type of equipment being installed.

I have also enclosed a brochure giving some general information on the company purpose and personnel.

Very truly yours,

Enrico F. Conti

Enrico F. Conti
Manager, Radiation
Protection Services

DUPLICATED
FOR DIV. OF COMPLIANCE



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PDR FOIA
GALLANT92-001 PDR

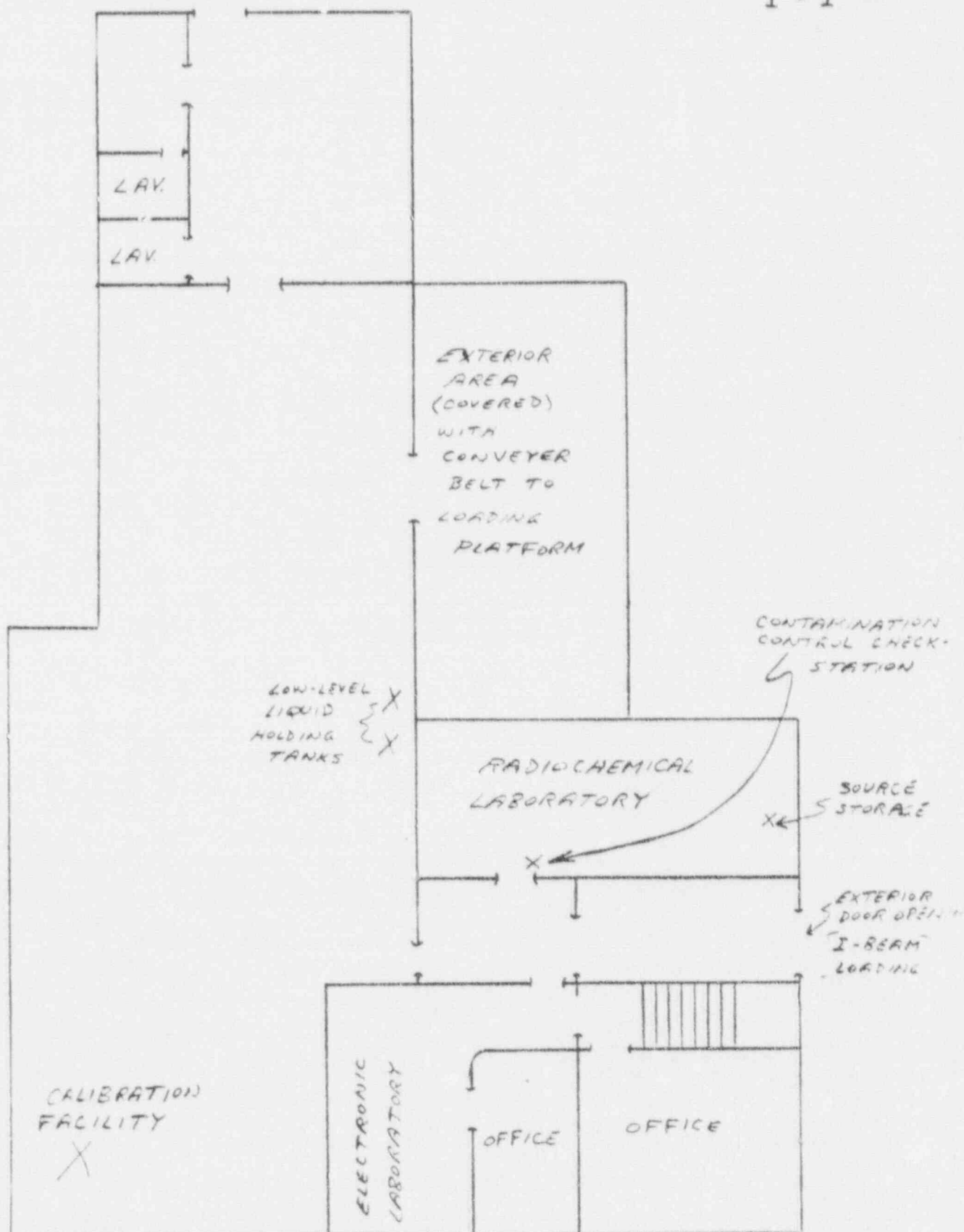
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150 SERVE, INC.

LOCATION OF OPERATIONAL FACILITIES

2ND FLOOR (TOP FLOOR)

1" = 1'



PORTLAND STREET

*Company Background
and Purpose*

DUPLICATED
FOR DIV. OF COMPLIANCE

ISOSERVE, INC. was organized on May 25, 1960 to provide service related to the uses of radioisotopes, applications of radioactivity and radiation protection. On its staff are physicists and chemists with extensive knowledge in the fields of radioisotope production and application, radiochemical syntheses, radiation effect studies and health physics. Isoserve, Inc. offers its facilities to companies, individual researchers and groups for routine isotope production and preparation, health physics, and research and development related to radioisotope applications. The variety of disciplines included in this new organization permits Isoserve, Inc. to cope successfully with the many different problems arising from the ever increasing uses of isotopes in all phases of medical and industrial research and development.

The production of short-lived isotopes is one of the unique services which has been initiated by Isoserve, Inc. Its utilization of local radiation sources permits customers to obtain a number of short-lived isotopes, for example Na^{24} , K^{42} , Cu^{64} , at frequent intervals. In addition, Isoserve undertakes the production of new or difficult-to-produce isotopes which are not available from any other source, such as Zn^{69} , Dy^{165} and Mn^{56} . It offers information on possible methods for separation of radionuclides from carrier material, safe handling of these substances and their successful utilization in many areas of medical and industrial research.

The experience of the staff of Isoserve, Inc. in the area of health physics, including a certified health physicist, permits this organization to conduct hazard evaluations of procedures and areas, to examine all phases of radiation protection and to consult with companies and individuals handling radioactive isotopes. The company is eminently qualified in the field of bioassay, activation analysis and material irradiations.

The continuing construction of nuclear reactors in many areas of the country open new vistas in research, development and services unknown several years ago. Isoserve is a pioneer in this expanding field. The assessment of the effect of this tool upon chemistry, physics, biology, medicine and engineering can only be determined in the future. However, its impact is already great. The staff of Isoserve is cognizant of the many recent advances utilizing the nuclear reactors and will aid in the dissemination of this information to all those who will profit from its use.

Isoserve makes isotopes serve all.

Board of Directors
and
Senior Staff

ALBERT H. SOLOWAY

President and Treasurer

Dr. Soloway has attended Worcester Polytechnic Institute, U. S. Naval Academy and the University of Rochester from which he was awarded a Ph.D. in Organic Chemistry. He was granted a post-Doctoral Fellowship for two years by the National Cancer Institute, was a Research Fellow at the Sloan-Kettering Institute for Cancer Research and a Research Associate at the Cornell Medical School. He was a research chemist at the Eastman Kodak Company and at present is a Research Associate in Surgery at the Harvard Medical School and an Assistant Chemist in Neurosurgery at the Massachusetts General Hospital.

He has had a great deal of experience in many phases of synthetic, analytical and physical-organic chemistry. He has wide knowledge of steroids and steroid biochemistry, of couplers in color photography, of organometallics, especially organoboron compounds and the incorporation of radioactive isotopes in organic compounds for medical research. He has authored over fifteen scientific publications and has contributed to several patents and invention reports while with Eastman Kodak. Recently he was chosen as a member of an Ad Hoc Committee on Boron Chemistry sponsored by the American Institute of Biological Sciences.

He belongs to Sigma Xi, Tau Beta Pi, the American Chemical Society and was an Associate Member of the International Radiation Research Congress.

HAROLD B. CARTER

Vice President, Secretary and General Manager

Mr. Carter has attended the U. S. Naval Hospital Corps School, X-Ray Technicians School, Radioisotope School at the National Naval Medical Center, Harvard University and Boston University. He was Instructor in X-Ray Technicians School in Chelsea, Massachusetts, Chief X-Ray Technician at the U. S. Naval Hospital in Portsmouth, New Hampshire, Chief Radioisotope Technician in the Naval Hospital Research Laboratory at Oakland, California and Chemistry Technician in Tracerlab, Inc. He is at present Research Technician of the Physics Research Laboratory of the Massachusetts General Hospital in charge of the Radioisotope Laboratory.

He has a great deal of theoretical knowledge and practical experience in the field of radiation protection, medical application of radioisotopes, production and separation of radioisotopes and the design of new chemical equipment for the safe handling of high levels of radiation. He has been engaged in the production and processing of short-lived isotopes produced in a nuclear reactor, as well as those formed in a cyclotron.

He was a member of the American Society of X-Ray Technicians and is a member of the Radiological Defense Unit.

GORDON L. BROWNELL

Associate Director

Dr. Brownell has attended Bucknell University and the Massachusetts Institute of Technology where he received his Ph.D. in Physics. He is a Research Associate in Medicine at the Harvard Medical School, Assistant Professor in Nuclear Engineering at M.I.T. and Head of the Physics Research Laboratory of the Massachusetts General Hospital. He is also a consultant-lecturer in Radiation Physics at the U. S. Naval Hospital in Chelsea, Massachusetts, and holds the positions of Consulting Associate Physicist of the Massachusetts Eye and Ear Infirmary, Trustee and Director of Neuro Research Foundation and Trustee of the Retina Foundation.

His extensive knowledge and experience in the field of medical physics prompted his selection as a member to many international conferences relating to the use of isotopes in medical research. He has been the author of more than thirty scientific publications and several books dealing with radiation dosimetry, the design of electronic equipment for medical use and various applications of radioisotopes in medicine. Through his efforts, positron-emitting isotopes have found an important position in the diagnosis and localization of diseases in man.

He belongs to Sigma Xi, the American Physical Society, Radiation Research Society, Biophysics Society and the American Association of Physicists in Medicine.

JOSEPH J. FITZGERALD

Associate Director

Professor Fitzgerald attended Boston College and the University of Rochester where he was awarded an Atomic Energy Commission Fellowship in Radiological Physics. He has held many important positions at the Knolls Atomic Power Laboratory of the General Electric Company where he was a research physicist in radiation protection, Supervisor of Radiological Chemistry and Physics, Consulting Health Physicist, Chairman of Advisory Council on Reactor Safeguards, Chairman of Radioactive Waste Disposal Committee and Chairman of General Electric Company's Study Group on Radiation Protection Standardization. He is a Consultant in Radiation Protection at the Massachusetts General and Peter Bent Brigham Hospitals, a Consultant in Radiological Services of the Harvard University Health Services and an Assistant Professor of Physics in the School of Public Health at Harvard University.

His very thorough knowledge in health physics has made him a recognized expert in reactor safeguards and other radiation problems. He is chairman of the American Standards Association Committee on Radiation Protection Standards for Nuclear Reactors, a member of the ASA Committee on Failure Probabilities and of the American Industrial Hygiene Association's Radiation Sessions Committee. He is a member of the Massachusetts Health Research Institute Committee. He has published or presented more than thirty papers on health physics, reactor safeguards and hazards evaluation, radioactive waste disposal and radiation monitoring. He has contributed to books, holds an AEC radiation dosimeter patent and is a co-developer of a new inexpensive personal dosimeter for measuring radiation exposure. Recently he has been appointed a member of the Massachusetts Atomic Energy Commission. He is a certified health physicist and the first chairman of the New England section of the Health Physics Society.

He belongs to the American Nuclear Society, Industrial Hygiene Association, Atomic Industrial Forum and Health Physics Society.

ENRICO F. CONTI

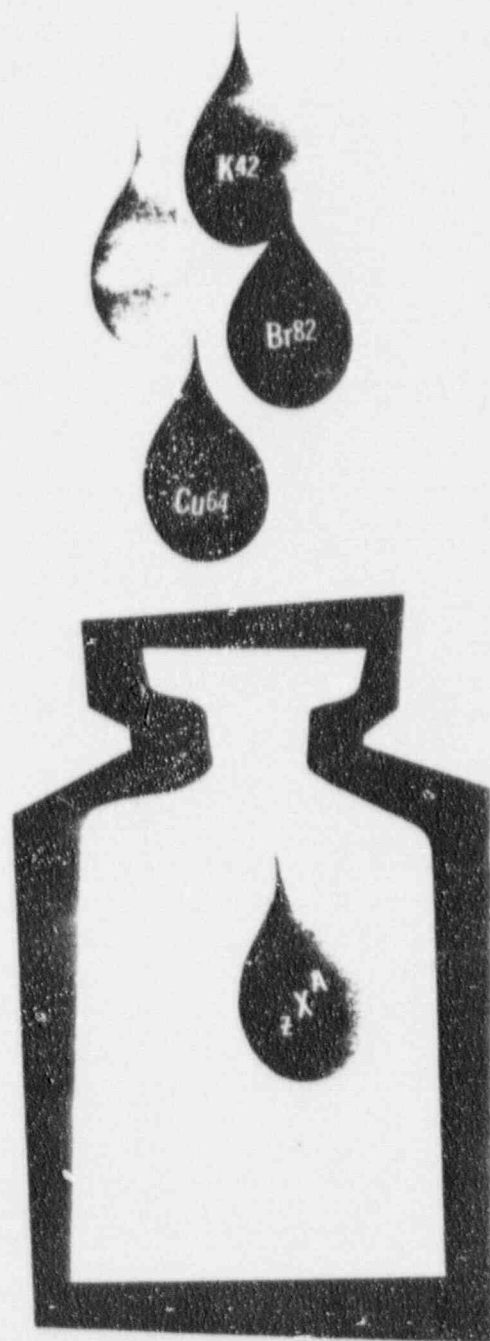
Manager, Radiation Protection Services

Mr. Conti was graduated from the University of Maine, receiving a B.S. degree in Engineering Physics. He was awarded an AEC Fellowship in Radiological Physics for study at the University of Rochester where he received an M.S. in Radiation Biology. This included training at the Brookhaven National Laboratory. He has studied at the Harvard School of Public Health under an AEC Fellowship in Industrial Hygiene.

He was associated with the Armour Research Foundation of Illinois Institute of Technology, where he held the positions of Chief Health Physicist and Associate Physicist. His experience included the responsibility for radiation safety in radioisotope laboratories, design specifications for new facilities, and evaluation of shielding and dosimetry studies.

He is a member of the Health Physics Society, the American Industrial Hygiene Association and the Radiation Research Society.

**SHORT-LIVED
RADIOACTIVE
ISOTOPES**



ISO/SERVE INC.

131 PORTLAND STREET • CAMBRIDGE 39, MASS.

AROUND THE CLOCK...



ISO/SERVE announces availability of *short-lived isotopes*

ISO/SERVE, Incorporated was organized on May 25, 1960 to provide service related to the use of radioisotopes, applications of radioactivity, and radiation protection.

From its inception, ISO/SERVE has been unique in producing short-lived isotopes to meet schedule requirements of hospitals, universities, and industry. This service is being continually expanded to include many additional short-lived isotopes.

The availability of short-lived isotopes in specially processed forms provides the following advantages:

1. Larger quantities of activity can be administered to patients with less total exposure than with longer-lived isotopes, thus providing a safer climate.
2. The cost of waste disposal is eliminated and the problems of contamination greatly reduced.
3. A higher response from this activity can be obtained with a smaller total dose, thus decreasing the radiation hazards while reducing the total costs of the activity and the procedure.
4. Short-lived isotopes can be prepared by ISO/SERVE in a variety of chemical forms to meet your requirements for particular procedures and systems.

Fast, dependable service is necessary to fully utilize the advantages inherent in the short-lived isotope. ISO/SERVE, located within minutes of Boston's Logan Airport, makes early morning shipments, on day of preparation, to any destination in the United States.

Typical flight schedules follow:

DEPARTURE		ARRIVAL	
BOSTON	8:00 AM	NEW YORK	8:59 AM
BOSTON	8:15 AM	PHILADELPHIA	9:33 AM
BOSTON	8:15 AM	WASHINGTON, D. C.	9:52 AM
BOSTON	8:00 AM	CHICAGO	9:15 AM
BOSTON	9:15 AM	SAN FRANCISCO	11:50 AM

Similar service can be provided to any major city in the United States.

SHORT-LIVED ISOTOPES

(Others On Request)			
SODIUM 24	15.0 hrs.	NaCl	>1200 mc/gm Na
POTASSIUM 42	12.5 hrs.	KCl	>100 mc/gm K
BROMINE 82	36 hrs.	NaBr in NaHCO ₃ soln	>500 mc/gm Br
COPPER 64	12.8 hrs.	CuSO ₄	>3000 mc/gm Cu
ARSENIC 74	26.5 hrs.	HA ₃ O ₃ in HCl soln	2-4 c/gm As
DYSPROSIUM 155	2.3 hrs.	DyCl ₃ in HCl soln	2 c/mg Dy
	14.1 hrs.	GaCl ₃ in HCl soln	1.8 c/gm Ga
	27.3 hrs.	HoCl ₃ in HCl soln	15-26 c/gm Ho
	40 hrs.	LaCl ₃ in HCl soln	3-9 c/gm La
	2.58 hrs.	MnSO ₄	30-60 c/gm Mn
	2.56 hrs.	NiCl ₂ in HCl soln	30-50 mc/gm Ni
	19.2 hrs.	PrCl ₃ in HCl soln	4-7 c/gm Pr
	2.62 hrs.	Na ₂ SiO ₃ in NaOH soln	18 mc/gm Si
	24 hrs.	Na ₂ WO ₄ in NaOH soln	2.2-4.2 c/gm W
	64.4 hrs.	YCl ₃ in HCl soln	250-500 mc/gm Y
	13.8 hrs.	ZnCl ₂ in HCl soln	20-100 mc/gm Zn

PRICES AND TERMS: See Separate Schedule

*REGULAR SHIPMENTS ON WEDNESDAY MORNING — OTHERS BY SPECIAL REQUEST

MANY OTHER SHORT-LIVED ISOTOPES AVAILABLE ON REQUEST

ALTHOUGH SPECIALIZING in the preparation and distribution of short-lived radioactive isotopes, ISOSERVE, Incorporated realizes that longer-lived isotopes are required in certain applications.

ISOSERVE, therefore, supplies the more important longer-lived isotopes on a stock basis. Others are available on request.

AVAILABLE IMMEDIATELY FROM STOCK

PRODUCT	HALF LIFE	CHEMICAL FORM	INITIAL SPECIFIC ACTIVITY
CALCIUM 45	164 Days	CaCl_2 in HCl	>5 mc/gm
CHLORINE 36	3.2×10^5	HCl	>0.5 mc/gm
CESIUM 137	30 yrs.	CsCl in HCl	Carrier Free
IODINE 131	8.1 Days	NaI	Carrier Free
PHOSPHORUS 32	14.2 Days	$\text{Na}_2\text{HPO}_4 + \text{NaH}_2\text{PO}_4$	Carrier Free
POLONIUM 210	138 Days	PoNO_3 in HNO_3	Carrier Free
SULFUR 35	87.1 Days	H_2SO_4 in HCl	Carrier Free
ZINC 65	245 Days	ZnCl_2 in HCl	>75 mc/gm

PRICES AND TERMS: See Separate Schedule

ISOSERVE, Incorporated also provides complete Health Physics Services on both a consulting and contract basis. Specialized problems as well as the more routine radiation protection services are welcome. In this regard, ISOSERVE is eminently qualified to assist you. Our staff includes certified and qualified Health Physicists.

Among the other services offered by ISOSERVE are:

ACTIVATION ANALYSIS • DESIGN OF IRRADIATION FACILITIES • ENVIRONMENTAL SURVEYS •
MONITORING • RADIOISOTOPE AND RADIATION APPLICATIONS • FACTOR HAZARD
EVALUATION • SAMPLING, AIR AND WATER • SHIELDING DESIGN • SOURCE PREPARATION •
VENTILATION SYSTEM DESIGN • BIOASSAY

ISO/SERVE INC.

131 PORTLAND STREET • CAMBRIDGE 39, MASS. UNIVERSITY 4-4423