



DEPARTMENT OF THE ARMY
OFFICE OF THE SURGEON GENERAL
WASHINGTON 25, D. C.

IN REPLY REFER TO
MEDPS-PO

SEP 21 1961

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

Gentlemen:

Recommend approval of the inclosed application for renewal of by-product material license for the Third U. S. Army Medical Laboratory, Fort McPherson, Georgia, for 10 millicuries of Iodine 131, .05 millicuries of Cobalt 57, 58 & 60, and 2 millicuries of Chromium 51.

The radioisotope facilities at the Third U. S. Army Medical Laboratory have been recently surveyed by the personnel of the U. S. Army Environmental Hygiene Agency and the health protection measures have been found to be adequate.

Sincerely,

ROSWELL G. DANIELS
Lt Colonel, MC
Preventive Medicine Division

1 Incl
AEC-313 (in trip)

CO/f

37440

DUPLICATED
FOR DIV. OF COMPLIANCE

APPLICATION FOR BYPRODUCT MATERIAL LICENSE

INSTRUCTIONS.—Complete Items 1 through 16 if this is an initial application. If application is for renewal of a license, complete only Items 1 through 7 and indicate new information or changes in the program as requested in Items 8 through 15. Use supplemental sheets where necessary. Item 16 must be completed on all applications. Mail three copies to: U. S. Atomic Energy Commission, Washington 25, D. C. Attention: Isotopes Branch, Division of Licensing and Regulation. Upon approval of this application, the applicant will receive an AEC Byproduct Material License. An AEC Byproduct Material License is issued in accordance with the general requirements contained in Title 10, Code of Federal Regulations, Part 30 and the Licensee is subject to Title 10, Code of Federal Regulations, Part 20.

<p>1. (a) NAME AND STREET ADDRESS OF APPLICANT. (Institution, firm, hospital, person, etc.)</p> <p>WILLIAM C. BUTZ, M. D. Third US Army Medical Laboratory Fort McPherson, Georgia</p>	<p>(b) STREET ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED. (If different from 1 (a).)</p> <p>Third US Army Medical Laboratory Fort McPherson, Georgia and U. S. Army Hospital (FIELD) Fort McPherson, Georgia</p>
<p>2. DEPARTMENT TO USE BYPRODUCT MATERIAL</p> <p>Pathology Department</p>	<p>3. PREVIOUS LICENSE NUMBER(S). (If this is an application for renewal of a license, please indicate and give number.)</p> <p>10-3997-2 (C61) and 10-3997-3 (J61) Renewal of 10-3997-3 (J61)</p>
<p>4. INDIVIDUAL USER(S). (Name and title of individual(s) who will use or directly supervise use of byproduct material. Give training and experience in Items 8 and 9.)</p> <p>WILLIAM C. BUTZ, M. D., Pathologist Colonel, MC, Commanding, US Army and GEORGE W. JOHNSTON, Lt Col, MSC Chief, Chemistry Section</p>	<p>5. RADIATION PROTECTION OFFICER (Name of person designated as radiation protection officer if other than individual user. Attach resume of his training and experience as in Items 8 and 9.)</p> <p>WILLIAM C. BUTZ, M. D. Third US Army Medical Laboratory</p>
<p>6. (a) BYPRODUCT MATERIAL. (Elements and mass number of each.)</p> <p>A. Iodine 131 B. Cobalt 57, 58 & 60 C. Chromium 51</p>	<p>(b) CHEMICAL AND/OR PHYSICAL FORM AND MAXIMUM NUMBER OF MILLICURIES OF EACH CHEMICAL AND/OR PHYSICAL FORM THAT YOU WILL POSSESS AT ANY ONE TIME. (If sealed source(s), also state name of manufacturer, model number, number of sources and maximum activity per source.)</p> <p>A. Sodium Iodide - 10 millicuries B. Cyanocobalamin - .05 millicuries C. Sodium Radio-Chromate (Gr 51) - 2 millicuries</p>
<p>7. DESCRIBE PURPOSE FOR WHICH BYPRODUCT MATERIAL WILL BE USED. (If byproduct material is for "human use," supplement A (Form AEC-313a) must be completed in lieu of this item. If byproduct material is in the form of a sealed source, include the make and model number of the storage container and/or device in which the source will be stored and/or used.)</p> <p>Human use. See attached Form AEC-313a</p>	

37440

DUPLICATED
FOR DIV. OF COMPLIANCE

TRAINING AND EXPERIENCE OF EACH INDIVIDUAL NAMED IN ITEM 1. Use supplemental sheets if necessary.

8. TYPE OF TRAINING	WHERE TRAINED	DURATION OF TRAINING	ON THE JOB (Circle answer)	FORMAL COURSE (Circle answer)
a. Principles and practices of radiation protection	Oak Ridge Institute of Nuclear Studies, Oak Ridge, Tennessee	6 weeks	Yes No	(Yes) No
b. Radioactivity measurement standardization and monitoring techniques and instruments	Oak Ridge Institute of Nuclear Studies, Oak Ridge, Tennessee	6 weeks	Yes No	(Yes) No
c. Mathematics and calculations basic to the use and measurement of radioactivity	Oak Ridge Institute of Nuclear Studies, Oak Ridge, Tennessee	6 weeks	Yes No	(Yes) No
d. Biological effects of radiation	Oak Ridge Institute of Nuclear Studies, Oak Ridge, Tennessee	6 weeks	Yes No	(Yes) No

9. EXPERIENCE WITH RADIATION. (Actual use of radioisotopes or equivalent experience.)

ISOTOPE	MAXIMUM AMOUNT	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	TYPE OF USE
I 131 CO 57	10 millicuries	Oak Ridge Inst. of Nuclear Studies, Oak Ridge, Tenn.	6 weeks	Basic Course in Technique of Using Radioisotopes. Same as above.
58,60	0.05 millicuries	Oak Ridge Institute of Nuclear Studies, Oak Ridge, Tenn.	"	
I 131 CO 57	58, 60	Third US Army Medical Lab	3 months	For Medical Diagnoses.

10. RADIATION DETECTION INSTRUMENTS. (Use supplemental sheets if necessary.)

TYPE OF INSTRUMENTS (Include make and model number of each)	NUMBER AVAILABLE	RADIATION DETECTED	SENSITIVITY RANGE (mr/hr)	WINDOW THICKNESS (mg/cm ²)	USE (Monitoring, surveying, measuring)
All made by Nuclear Instrument of Chicago					
Portable Survey Meter-2612M	1	Gamma & Beta	0-20	See catalog	Measurement or health monitoring for all listed.
Binary Scaler - 183B	1	Gamma & Beta	N.A.	N.A.	
Pulse Height Analyzer-1810	1		N.A.	N.A.	
1" Scintillation Probe-DS5-2	1	Gamma	N.A.	N.A.	
2" Crystal Well Counter-DS5-5	1	Gamma	N.A.	N.A.	

11. METHOD, FREQUENCY, AND STANDARDS USED IN CALIBRATING INSTRUMENTS LISTED ABOVE.

Use of Standard Iodine or Cesium; standardize daily.

12. FILM BADGES, DOSIMETERS, AND BIO-ASSAY PROCEDURES USED. (For film badges, specify method of calibrating and processing, or name of supplier.)

Film Badges processed by US Army Signal Corps.

INFORMATION TO BE SUBMITTED ON ADDITIONAL SHEETS

13. FACILITIES AND EQUIPMENT. Describe laboratory facilities and remote handling equipment, storage containers, shielding, fume hoods, etc. Explanatory sketch of facility is attached. (Circle answer) (Yes) No See page 4 of Form AEC-313a, and photograph.

14. RADIATION PROTECTION PROGRAM. Describe the radiation protection program including control measures. If application covers sealed sources, submit leak testing procedures where applicable, name, training, and experience of person to perform leak tests, and arrangements for performing initial radiation survey, servicing, maintenance and repair of the source. See page 4 of Form AEC-313a

15. WASTE DISPOSAL. If a commercial waste disposal service is employed, specify name of company. Otherwise, submit detailed description of methods which will be used for disposing of radioactive wastes and estimates of the type and amount of activity involved. See page 4 of Form AEC 313a

CERTIFICATE (This item must be completed by applicant)

16. THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATE ON BEHALF OF THE APPLICANT NAMED IN ITEM 1, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PART 30, AND THAT ALL INFORMATION CONTAINED HEREIN, INCLUDING ANY SUPPLEMENTS ATTACHED HERETO, IS TRUE AND CORRECT TO THE BEST OF OUR KNOWLEDGE AND BELIEF.

Date 5 September 1961

William P. Butz
Applicant named in item 1

William P. Thompson
WILLIAM P. THOMPSON, CWO USA
Asst Adjutant

SEP 25 1961
RECEIVED
U.S. AEC
Isotopes Branch
Bldg. of L & R

WARNING.—18 U. S. C., Section 1001; Act of June 25, 1948, 62 Stat. 449; makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States or to any person within its jurisdiction.

APPLICATION FOR BYPRODUCT MATERIAL LICENSE

SUPPLEMENT A—HUMAN USE

If byproduct material is for "human use" (internal administration of byproduct material, or the radiation therefrom to human beings), complete this supplement and attach to the application for byproduct material license.

1. (a) USING PHYSICIAN'S NAME WILLIAM C. BUTZ, M. D. Third US Army Medical Lab Fort McPherson, Georgia	(b) NAME AND ADDRESS OF APPLICANT (If different from 1(a)) GEORGE W. JOHNSTON, Lt Col, MSC Chief, Chemistry Section Third US Army Medical Laboratory
--	--

2. THE USING PHYSICIAN INDICATED ABOVE IS LICENSED TO DISPENSE DRUGS IN THE PRACTICE OF MEDICINE BY A STATE OR TERRITORY OF THE UNITED STATES, THE DISTRICT OF COLUMBIA, OR THE COMMONWEALTH OF PUERTO RICO. CIRCLE ANSWER	(YES) NO
---	------------

3. A STATEMENT OF USING PHYSICIAN'S CLINICAL RADIOISOTOPE EXPERIENCE (PAGE 3 OF THIS SUPPLEMENT) IS SUBMITTED IN SUPPORT OF THIS APPLICATION. IF ANSWER IS NO, USE PAGE 2 OF THIS SUPPLEMENT TO EXPLAIN OR REFER TO OTHER APPLICATION OR RELATED DOCUMENTS ON WHICH THIS INFORMATION APPEARS. See Amendment No. 1, License No. 10-3997-3 (J61)	YES (NO) CIRCLE ANSWER
---	---------------------------------

PROPOSED DIAGNOSIS OR TREATMENT

4. (a) DESCRIBE PURPOSE FOR WHICH BYPRODUCT MATERIAL WILL BE USED INCLUDING SPECIFIC CONDITIONS OR DISEASES TO BE DIAGNOSED OR TREATED (Use page 2 if necessary): **Sodium Iodide will be used in the diagnosis of Thyroid function by administering it to the patient and using a scintillation detector over the thyroid to determine the uptake of radioactive iodine.**

(b) CHEMICAL FORM ADMINISTERED: **Sodium Iodide; Cyanocobalamin with Cobalt 57, 58 and/or Cobalt 60 in diagnosis of pernicious anemia and malabsorption syndromes.**
Sodium Radio-Chromate Cr⁵¹ for diagnosis of blood volume and red cell survival.

(c) DESCRIBE PROCEDURES WHICH WILL BE OBSERVED TO MINIMIZE HAZARD FROM HANDLING, STORAGE, AND DISPOSAL OF THE BYPRODUCT MATERIAL:
Radioactive materials are secured with a locked safe surrounded by lead bricks.

(d) DESCRIPTION AND SKETCHES OF SPECIAL DEVICES TO BE USED FOR ADMINISTERING BYPRODUCT MATERIAL TO HUMAN BEINGS ARE (1) ATTACHED (LITERATURE REFERENCES WILL SUFFICE) CIRCLE ANSWER	YES (NO)
(2) ON FILE WITH THE ISOTOPES EXTENSION REFER TO APPLICATION NO _____ CIRCLE ANSWER	YES NO

5. PROPOSED DOSAGE SCHEDULE

(a) In millicuries for internally administered byproduct material other than discrete fixed sources; and in roentgens or rads, as appropriate, for internal or external irradiation from discrete fixed sources (gold seeds, cobalt needles, etc.) state separately for each condition or disease (use page 2 if necessary):

Sodium Iodide for thyroid function - 0.010 to 0.050 millicuries.
Cyanocobalamin in diagnosis of pernicious anemia - 0.0005 millicuries.
Sodium Radio-Chromate Cr⁵¹ - 0.1 millicuries.

(b) INVESTIGATIVE PROPOSAL FOR EXPERIMENTAL, NEW OR UNUSUAL HUMAN USES IS ATTACHED. (Attachment should include outline of conditions to be evaluated, including data from animal studies and/or abstract of literature reference if any, number and type of patients (i. e. age group, moribund, etc.)) CIRCLE ANSWER	YES (NO)
---	------------

6. IF BYPRODUCT MATERIAL WILL NOT BE OBTAINED IN PRECALIBRATED FORM FOR ORAL ADMINISTRATION OR IN PRECALIBRATED AND STERILIZED FORM FOR PARENTERAL ADMINISTRATION, DESCRIBE IDENTIFICATION, PROCESSING, AND STANDARDIZATION PROCEDURES:

Material will be obtained precalibrated and sterilized.

DUPLICATED

7. THE PROPOSED USE OF BYPRODUCT MATERIAL HAS BEEN, OR WILL BE, APPROVED BY THE MEDICAL ISOTOPE COMPLIANCE COMMITTEE. FOR DIV. OF COMPLIANCE	CIRCLE ANSWER (YES) NO
--	--------------------------

HOSPITAL FACILITIES FOR INDIVIDUAL PRACTICE USE ONLY

8. (a) THE APPLICANT HAS COMPLETED ARRANGEMENTS FOR A HOSPITAL TO ADMIT RADIOACTIVE PATIENTS WHENEVER ADVISABLE. U. S. Army Hospital (FIELD), Fort McPherson, Georgia	CIRCLE ANSWER (YES) NO
(b) A COPY OF INSTRUCTIONS TO BE FURNISHED TO THE HOSPITAL AS TO RADIOLOGICAL SAFETY PRECAUTIONS TO BE TAKEN AND AVAILABLE RADIATION INSTRUMENTATION IS ATTACHED.	CIRCLE ANSWER (YES) NO

APPLICATION FOR BYPRODUCT MATERIAL LICENSE

SUPPLEMENT A—HUMAN USE

This page may be used for providing additional information. Please cross reference to specific items.

[Faint, mostly illegible text follows, appearing to be a list or series of entries with some numbers and descriptive phrases.]

1. [illegible] - [illegible]

2. [illegible] - [illegible]

3. [illegible] - [illegible]

4. [illegible] - [illegible]

5. [illegible] - [illegible]

6. [illegible] - [illegible]

7. [illegible] - [illegible]

8. [illegible] - [illegible]

9. [illegible] - [illegible]

10. [illegible] - [illegible]

11. [illegible] - [illegible]

12. [illegible] - [illegible]

13. [illegible] - [illegible]

14. [illegible] - [illegible]

15. [illegible] - [illegible]

16. [illegible] - [illegible]

17. [illegible] - [illegible]

18. [illegible] - [illegible]

19. [illegible] - [illegible]

20. [illegible] - [illegible]

21. [illegible] - [illegible]

22. [illegible] - [illegible]

23. [illegible] - [illegible]

24. [illegible] - [illegible]

25. [illegible] - [illegible]

26. [illegible] - [illegible]

27. [illegible] - [illegible]

28. [illegible] - [illegible]

29. [illegible] - [illegible]

30. [illegible] - [illegible]

31. [illegible] - [illegible]

32. [illegible] - [illegible]

33. [illegible] - [illegible]

34. [illegible] - [illegible]

35. [illegible] - [illegible]

36. [illegible] - [illegible]

37. [illegible] - [illegible]

38. [illegible] - [illegible]

39. [illegible] - [illegible]

40. [illegible] - [illegible]

41. [illegible] - [illegible]

42. [illegible] - [illegible]

43. [illegible] - [illegible]

44. [illegible] - [illegible]

45. [illegible] - [illegible]

46. [illegible] - [illegible]

47. [illegible] - [illegible]

48. [illegible] - [illegible]

49. [illegible] - [illegible]

50. [illegible] - [illegible]

51. [illegible] - [illegible]

52. [illegible] - [illegible]

53. [illegible] - [illegible]

54. [illegible] - [illegible]

55. [illegible] - [illegible]

56. [illegible] - [illegible]

57. [illegible] - [illegible]

58. [illegible] - [illegible]

59. [illegible] - [illegible]

60. [illegible] - [illegible]

61. [illegible] - [illegible]

62. [illegible] - [illegible]

63. [illegible] - [illegible]

64. [illegible] - [illegible]

65. [illegible] - [illegible]

66. [illegible] - [illegible]

67. [illegible] - [illegible]

68. [illegible] - [illegible]

69. [illegible] - [illegible]

70. [illegible] - [illegible]

71. [illegible] - [illegible]

72. [illegible] - [illegible]

73. [illegible] - [illegible]

74. [illegible] - [illegible]

75. [illegible] - [illegible]

76. [illegible] - [illegible]

77. [illegible] - [illegible]

78. [illegible] - [illegible]

79. [illegible] - [illegible]

80. [illegible] - [illegible]

81. [illegible] - [illegible]

82. [illegible] - [illegible]

83. [illegible] - [illegible]

84. [illegible] - [illegible]

85. [illegible] - [illegible]

86. [illegible] - [illegible]

87. [illegible] - [illegible]

88. [illegible] - [illegible]

89. [illegible] - [illegible]

90. [illegible] - [illegible]

91. [illegible] - [illegible]

92. [illegible] - [illegible]

93. [illegible] - [illegible]

94. [illegible] - [illegible]

95. [illegible] - [illegible]

96. [illegible] - [illegible]

97. [illegible] - [illegible]

98. [illegible] - [illegible]

99. [illegible] - [illegible]

100. [illegible] - [illegible]

**APPLICATION FOR BYPRODUCT MATERIAL LICENSE
SUPPLEMENT A—HUMAN USE**

This page may be completed by the physician's preceptor (if any) in the medical use of radioisotopes. When the information is not furnished by the preceptor, the name and present address of the preceptor (if any) should be shown in item 12 below.

9. (a) USING PHYSICIAN'S NAME WILLIAM C. BUTZ, M. D. Third US Army Medical Lab Fort McPherson, Georgia	(b) NAME AND ADDRESS OF APPLICANT (If different from 9(a)) GEORGE W. JOHNSTON, Lt Col, MSC Chief, Chemistry Section Third US Army Medical Laboratory
--	--

10. CLINICAL TRAINING AND EXPERIENCE OF PHYSICIAN WHO WILL USE BYPRODUCT MATERIAL

(A) ISOTOPE	(B) CONDITION(S) DIAGNOSED OR TREATED	(C) NUMBER OF CASES	(D) TYPE OF PARTICIPATION FOR ALL CASES IN COLUMN D (circle applicable numbers of items in accordance with key set forth below)
I-131	Diagnosis of thyroid function	8	<input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input checked="" type="checkbox"/> 4
	Treatment of hyperthyroidism		1 2 3 4
	Treatment of thyroid cancer		1 2 3 4
	Treatment of cardiac conditions		1 2 3 4
	Brain tumor localization		1 2 3 4
	Blood determinations		1 2 3 4
	Others:		1 2 3 4
P-32 Soluble	Treatment of polycythemia and leukemia		1 2 3 4
	Brain tumor localization		1 2 3 4
	Treatment of bone metastases		1 2 3 4
	Others:		1 2 3 4
P-32 CrPO ₄	Treatment of prostatic cancer		1 2 3 4
	Treatment of cervical cancer		1 2 3 4
	Treatment of pleural effusions and/or ascites		1 2 3 4
	Others:		1 2 3 4
Au-198 Colloid	Treatment of prostatic cancer		1 2 3 4
	Treatment of cervical cancer		1 2 3 4
	Treatment of pleural effusions and/or ascites		1 2 3 4
	Others:		1 2 3 4
Cr-51	Blood determinations	3	<input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input checked="" type="checkbox"/> 4
	Others:		1 2 3 4
Other Isotopes	Vitamin B ₁₂ CO-57	2	<input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input checked="" type="checkbox"/> 4
	Vitamin B ₁₂ CO-60		<input checked="" type="checkbox"/> 1 <input checked="" type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input checked="" type="checkbox"/> 4

Key to above numbers (column D) Active Participation and Discussion

1. Examination of patients to determine suitability for radioisotope diagnosis and/or treatment and recommendations on dosage to be prescribed.
2. Collaboration in calibration and administration of dosages including related measurements and plotting of data.
3. Active period of training and experience of sufficient duration to permit followup of patients through treatment and posttreatment period including reevaluation as to effectiveness and complications.
4. Study and discussion of case histories to establish most efficacious diagnostic and/or therapeutic techniques for this radioisotope use.

DUPLICATED

11. TOTAL NUMBER OF HOURS OF PARTICIPATION IN CLINICAL TRAINING 50 hours FOR DIV. OF COMPLIANCE 37440

12. THE TRAINING AND EXPERIENCE INDICATED ABOVE WAS OBTAINED UNDER THE SUPERVISION OR GUIDANCE OF

WILLIAM C. BUTZ, M. D. AT **Third US Army Medical Lab**
(Name of physician (preceptor)) **Fort McPherson, Georgia**

William C. Butz
(Signature)

UNITED STATES ATOMIC ENERGY COMMISSION

Form AEC-313
(3-59)
PAGE 4

APPLICATION FOR BYPRODUCT MATERIAL LICENSE
SUPPLEMENT A—HUMAN USE

Form approved
Budget Bureau No. 38-R080.1

This page may be used for providing additional information.

AEC-313

Item No. 14 Continued: Radioisotope compounds are received precalibrated from Abbott Laboratories, stored in a lead brick lined iron safe in a locked room until ready for use. The material is monitored from safe to patient. The laboratory is monitored each day isotopes are used for spills or leaks.

Item No. 15 Continued: Waste material is kept in a safe room until it has deteriorated to a safe level and then discarded down the sink well diluted with water from the tap, into the common sewerage system.

7-1-60
1-1-60

13-501

Approved: _____
Special Agent in Charge

50

FAULT

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50

TSR



