Form AEC-313 (5-58)

ATOMIC ENERGY COMMISSION

APPLICATION FOR BYPRODUCT MATERIAL LICENSE

Form approved. Budget Bureau No. 38-R027.3.

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.

1. (a) NAME AND STREET ADDRESS OF APPLICANT. *(Institution, firm, hospital, person, etc.)*

The Goodyear Tire & Rubber Company
1144 E Market Street
Akron, Ohio 44316

(b) STREET ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED. *(If different from 1 (a).)*

Experimental Garage, Plant 2
Goodyear Tire & Rubber Co
Akron, Ohio 44316

2. DEPARTMENT TO USE BYPRODUCT MATERIAL

Experimental Garage - Dept 462E

3. PREVIOUS LICENSE NUMBER(S). *(If this is an application for renewal of a license, please indicate and give number.)*

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.)*

Donald E Johnson, Dev Engineer
Thomas J Strange, Mgr, Garage
Clyde H Lindsey, Sr Technician
Ronald B Lowdermilk, Dev Eng

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.)*

R A Manning

6. (a) BYPRODUCT MATERIAL. *(Elements and mass number of each.)*

Iodine 125

(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.)*

Any form. 25 millicuries

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.)*

For experimental tire wear testing. Reference: License 34-508-6, Amendment No 12. Iodine 125 is applied at spots, about 1 inch in diameter, on the surface of the tire tread. It penetrates the rubber to a depth of about 0.020 in, reacting chemically with the rubber. One spot contains about 50 microcuries and there may be 10-20 tagged spots per tire. The spots are worn off in from 100-1000 miles. External radiation from such a tire is less than 2 mr/hr. Soil contamination from such a test is from 8×10^{-5} to 8×10^{-6} microcuries/sq in traversed by each spot.

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(Continued on reverse side)

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TRAINING AND EXPERIENCE OF EACH INDIVIDUAL NAMED IN ITEM 4 (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	D E Johnson, BS Mech Eng, Iowa State		Yes No	Yes No
b. Radioactivity measurement standardization and monitoring techniques and instruments	R B Lowdermilk, BS Mech Eng, W Va U T J Strange, 31 yr Goodyear service		Yes No	Yes No
c. Mathematics and calculations basic to the use and measurement of radioactivity	C H Lindsey, 11 yr Goodyear Service		Yes No	Yes No
d. Biological effects of radiation			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
Training in isotope safety procedures will be given the above users by a qualified user under AEC License 34-508-6, from the Goodyear Research Division, who will supervise the work initially.				

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/cm²)	USE (Monitoring, surveying, measuring)
Nuclear Chicago (or equivalent) Model 2800A Scaler	1	Beta Gamma			Measuring
Model D58-21 Detector	1	"			"
Model 2651 Survey Meter (P-15 Probe)	1	"	0-.0375 0-.375 0-3.75	1.4-2	Monitoring

11. METHOD, FREQUENCY, AND STANDARDS USED IN CALIBRATING INSTRUMENTS LISTED ABOVE.
Survey meter will have a check source. Meter will be checked against source prior to each use.

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

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) Suitable facilities will be set up at the Experimental garage by a qualified user under 34-508-6.

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. Frequent use of survey meter. Storage of isotope in locked, labelled cabinet.

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. By decay.

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 HIS KNOWLEDGE AND BELIEF.

RECEIVED AUG 3 - 1965 — U.S. ATOMIC ENERGY COMMISSION — Division of Military Application

Date August 2, 1965

THE GOODYEAR TIRE & RUBBER COMPANY
Applicant named in item 1

By: R. L. Mills

Secretary
Title of certifying official

WARNING.—18 U. S. C., Section 1001; Act of June 25, 1948; 62 Stat. 749; makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

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