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June 17, 1969

United States Atomic Energy Commission
Isotopes Branch
Division of Licensing
Washington, D. C. 20545

Gentlemen:

We hereby request an amendment to our license CL-122 to include LAB 602. LAB 602 is an improved version of the LAB 600 series aircraft exit marker which we have manufactured and distributed for several years.

The aircraft industry and associated regulatory agencies are anxious to provide increased passenger safety by using aircraft exit markers with a higher brightness than those currently in use. The LAB 602 was designed to meet this demand by providing for up to four light sources per marker.

In order to provide the industry with some flexibility, the LAB 602 will be produced in two sizes, 6 and 9 inches long, with standard assemblies having 2 or 4 light source tubes to achieve the brightness desired for each installation. Legends will be specified by the purchaser for each exit marker at the time of purchase. They will be applied to the front surface by usual screen painting methods.

The basic design follows that of the LAB 758. An attached drawing shows the LAB 758 details. In the last four years hundreds of self-luminous units fabricated with the light source potted in shock resistant silicone resin according to the LAB 758 concept have been in use by the aircraft industry. The satisfactory performance by these units has proved the design to be a good one for Hydrogen-3 containment.

Hydrogen-3 containment in the LAB 602 is accomplished by the same fabrication techniques which were tested to meet 10 CFR 30.24 requirements for prototypes as reported to you by Clayton C. Carroll, July 13, 1965, in Prototype Test Report For Self-Luminous Devices Containing Fusion Sealed Glass Light Sources Excited by Hydrogen-3.

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Details of construction are shown on the attached drawing LAB 602. The unit is an acrylic block with grooves cut into it. The light sources are potted into the grooves with a shock resistant, clear silicone potting gel. An acrylic sheet is then placed over the back, covering the grooves, to give a complete acrylic seal around the light sources.

Table I lists the four variations of the LAB 602 which have been requested by the aircraft industry and gives the total Hydrogen-3 content of each.

TABLE I

LAB 602 STANDARD UNITS

<u>USR Designation</u>	<u>Nominal Length-Inches</u>	<u>Number of Light Sources</u>	<u>Hydrogen-3 Content Ci</u>
602-06-2	6	2	3.1
602-06-4	6	4	6.2
602-09-2	9	2	4.0
602-09-4	9	4	8.0

Reviewing the existing license 5L-122, it appears the changes required to meet our request are:

- 1) Add LAB 602 to Condition 10.B.
- 2) Amend Condition 11 to allow eight curies of Hydrogen-3 per source.

Please contact me for any further information you may desire. My extension number is 204.

Sincerely yours,

UNITED STATES RADIUM CORPORATION

CLO
Jrn

C. L. Olson
Director
Nuclear Division

Encs.

cc: W. E. Umstead

T. A. Matsubara

R. C. [unclear]