HTING PRODUCTS DIVISION
UNITED STATES RADIUM CORPORATION
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MAY 19, 1970

Mr. Jack M. Bell
U. S. ATOMIC ENERGY COMMISSION
Division of Materials Licensing
7920 Norfolk Avenue
Bethesda, Md. 20014

Dear Mr. Bell:

U. S. Radium exit display
#604 and #616

In response to my original letter of submission of April 22, 1970, and our subsequent meeting of May 18, 1970, I am pleased to provide the following additional information pursuant to this submittal referred above.

Application for the 604 type display (to be used on the Boeing Co. 747 aircraft) is based on a structural concept that is almost identical to that type display previously approved by the USAEC, the 758H1 self-luminous display (pull handle). There is only one variation in the concept and that is the fact that the 758 has an aluminum housing which fastens to the front face of the display (this method of attachment was for the specific purpose of securing the 758 to web type belting used in its application); otherwise the internal structure of the 604 and design feature is exactly like that of the 758. The tritium tubes (LAB 785) are completely surrounded by a silicone potting gel (GE602). Rubber ring washers maintain proper spacing for surrounding the tubes with potting gel. The Isolite tritium tubes (LAB 785) used in the 604 sign have the same pressure as those tubes used in the 758 display. The pressure is approximately 600 mm. The maximum tritium content for a 604 sign is 10.0 curies (3.3 curies maximum per tube). The tube assembly is potted into the aluminum tube cup. This assembly is then housed in a tempered acrylic (non-burning) housing for the face and sides of the display. A backplate that also serves as a mounting plate is cemented and screw fastened to the acrylic housing that makes a tertiary seal to the entire unit.

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The mounting of the 604 is accomplished by bolting the display to a bulk head or special mounting plate (for overhead signs) in the aircraft; slotted holes are provided at the ends of the display in the backplate (mounting plate). Bilingual signs are joined together with dowel pins at the junction to give the appearance of a single display; each sign however is designed and built to have its own integrity.

Enclosed is the LAB 785 drawing that was originally omitted in the submission. Corrected drawings of the top assemblies with individual call-outs and legend lists fully describe the assembly as well as noting the materials used.

The time you were able to devote to us in the meeting to discuss the above was greatly appreciated probably more so by the Boeing Co. rather than by U. S. Radium.

I will be in contact with you shortly by telephone to determine the receipt of the material and your action upon it. Please do not hesitate to call if there are any points that require further clarification.

Very truly yours,

UNITED STATES RADIUM CORPORATION

T. Alden Matsubara
Nuclear Products Specialist

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