

# THE HARSHAW CHEMICAL COMPANY

1945 EAST 97TH STREET  
CLEVELAND 6, OHIO  
RANDOLPH 1-8300

July 12, 1961

Mr. Joseph Delaney  
Branch Chief of Special Materials  
Licensing Branch  
Division of Licensing and Regulation  
U. S. Atomic Energy Commission  
Washington 25, D. C.

Dear Mr. Delaney:

This letter is a request for amendment of our license No. SNM-427, as amended, to possess special nuclear materials. The amendment is requested for two points. First, an increase in the number of 1 curie (16 grams) plutonium sources (as plutonium-beryllium neutron sources) from one to a maximum of five, "in accordance with the procedures described in the licensee's application (undated) received December 2, 1960, and application dated January 17, 1961, as supplemented February 7, 1961."

Second, we request an amendment to permit us to include the following trans-uranic alpha sources for purposes of calibration. In keeping with their character as calibration sources, it is understood that these sources, whether electroplated or evaporated, will have deposit thicknesses less than 10 micrograms per square centimeter. We are advised by Mr. Neil Case, Oak Ridge National Laboratory, Union Carbide and Carbon Company, that the materials which we require are available if the allocation requests are approved, and that in the desired thickness of deposit range there should be no question of satisfactory adhesion of the source to the backing. Therefore, permission to possess the following sources is requested:

1. Maximum of four each americium-241 having a maximum strength of 1 microcurie each.
2. Maximum of two sources of americium-241 having a maximum strength of 10 microcuries each.
3. Two sources of curium-244 having a maximum strength of 10 microcuries each.
4. One source of californium-252 having a maximum strength of 10 microcuries.

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-2-

It is to be understood that all of these materials are to be very thin sources (thickness less than 10 micrograms per square centimeter) and to be used for purposes of calibrating radiation detectors.

The precautions and procedures outlined in the previous applications for the subject license No. SNM-247 will apply in this case.

We will appreciate your attention to this matter. Thank you.

Very truly yours,

W. W. Managan, Manager  
Commercial Development  
Crystal Division

Encl.  
Copy of License

WWM:mrw

cc: Mr. Ray Jones  
Division of Research  
U. S. Atomic Energy Commission  
Germantown, Maryland

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