

**PICKER CORPORATION**

6671 BETA DRIVE/CENT. BLDG.  
MAYFIELD VILLAGE, OHIO 44143

PDR 71-5796

January 4, 1980

Charles E. MacDonald  
Transportation Branch  
United States Nuclear Regulatory Commission  
Washington D C 20555

Dear Mr. MacDonald,

I have been in communications with Mr. Dick Adegaarden relevant to our request for amending Certificate of Compliance No. 5796 changing Cesium-137 to normal form and submit the following data concerning the construction of the Cesium Source Capsule.

1. All Cesium Sources were fabricated by O. R. N. L. (Oak Ridge National Labs.) using capsule parts supplied by Picker.
2. The Cesium source material was encapsulated in two sealed stainless steel shells then put into the tungsten source holder. See the attached drawing for construction.
3. The inner and outer containers were constructed of type 316 LC stainless steel. The wall thickness is .0625 inches thick except for the window which is .020 inches thick. The covers are type 316 LC stainless steel .062 inches thick, Heli-arc welded to the container.
4. All welds were made by O. R. N. L.
5. Leak and wipe tests were made by O. R. N. L. in accordance with the AEC/NRC regulations in effect at the time of construction.
6. Picker had also performed wipe tests. The Picker wipe test consisted of wiping all the external surfaces of the sealed sources using absorbant paper which was moistened with water. The wipe was placed in a well counter and counted against a standard. All sources were found to be within the regulation requirements in effect at the time of the wipe. All records currently reviewed indicate wipe results less than .005 uc. Some of the present isotope facility personnel believe the regulations at one time may have required .05 uc or less of removable contamination.

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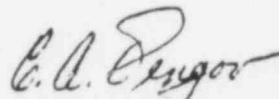
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Prior to future shipments of the Cesium Sources, wipe tests will be conducted on each source in the following manner.

1. The Cesium Source will be removed from the Cesium head and place in the source exchange container.
2. The source cavity where the source has been installed since installation will have all the surfaces which the source was in contact with wiped with moistened absorbant paper.
3. The activity of the wipe will be counted and compared to a standard using equipment which is capable of detecting less than .05 uc of contamination.
4. Shipment will be made only if the wipe results are less than .05 uc of contamination.

Your expeditious handling of this matter will be greatly appreciated.

Sincerely yours,



C. A. Pengov  
Safety Officer  
Special Systems Division  
Picker Corporation

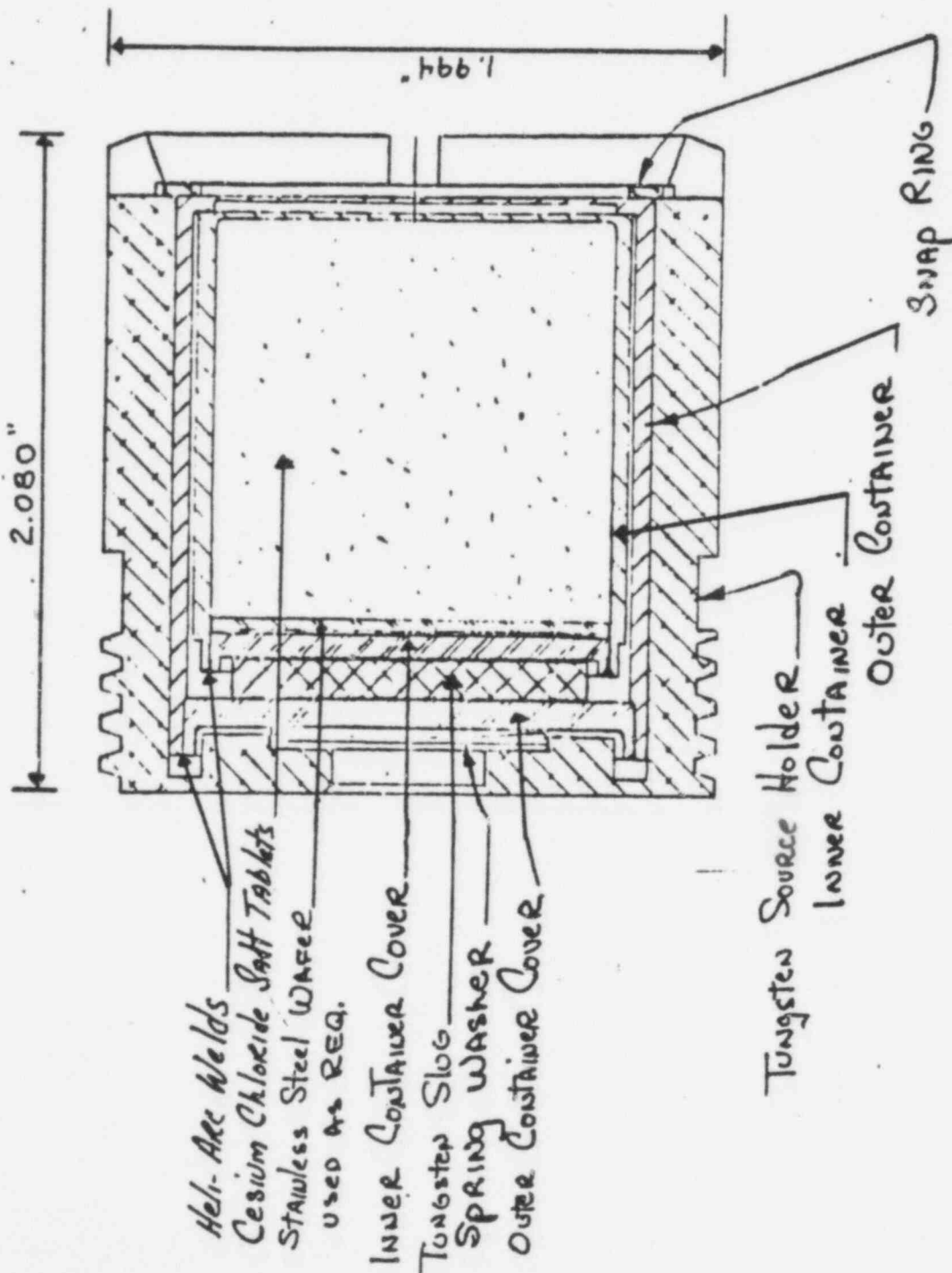
cc: R. Arndt - AMS  
W. Ashby  
D. Churchill  
K. Draggman  
N. Kelbley - AMS  
R. Locker  
W. Mog  
J. Stickney

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Cesium Source Construction

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