

January 8, 1997



TELEFAX

**Region II
Materials Licensing
Suite 2900
101 Marietta St.
Atlanta, GA 30323**

FROM: EARL G. WRIGHT, NML
Voice: (404) 331-5617
Fax: (404) 331-7437, or 5559

*EGW 07
1/8/97*

TO: Dr. Greg Wandless, RSO
USGS
Reston, VA

*Licensee responded
by FAX dated 1/10/97*

Fax: (703-648-6383)

(2 pages + cover)

This confirms our telephone call of 1/7/97 about your letter of September 10, 1996 requesting changes to License No. 45-15923-01. As discussed, please provide the following:

1. Clarification of whether you are to remain on the license as authorized user once we name Dr. Naeser as Radiation Safety Officer.

Has NO

2. Please clarify the names of authorized users and authorized uses which should appear in Condition 12 of your amended license.
Reserve Dr. Lanyon
3. Clarify the places of use that should be specified in Condition 10 of your amended license.
Retain SC location until other lic issued. Being processed by Wade Lab.
4. Clarify whether zinc 65 should appear in Item 6 of your license.
NO
5. *OK* Your letter of September 10, 1996 makes reference to "a vial containing 1 millicurie of americium 241 discovered in early 1996" which you now have in storage awaiting disposal. Please provide the following clarifying information about this material.

- (a) A description of the physical and chemical form and the method of safely containing the material (for example, liquid contained in a screw top glass vial...) Also, please specify specific procedures for preventing or reducing the impact of any spill or loss of containment of the material.
- (b) Specify the results of smear and instrument surveys of the vial to determine if removable contamination is present and the external radiation levels at a specified distance from the vial surface (i.e. 1 inch).
- (c) Describe your basis for concluding that the vial contains 1 millicurie of americium 241.
- (d) If your current possession limit of americium 241 is greater than 1 millicurie as indicated, you will need to submit a decommissioning funding plan as specified in 10 CFR 30.35(a) and (e). Procedures for submitting this plan are contained in RG 3.66 which will be sent to you by postal mail.
- (e) Also, please clarify the number of custom sealed source of americium 241 you currently possess and provide details about how the sources were fabricated (i.e. materials of

5 sources do not meet def. of SS.

- (e) Also, please clarify the number of custom sealed source of americium 241 you currently possess and provide details about how the sources were fabricated (i.e. materials of construction, method of sealing the containment/activity per source and results of current leak tests).

If you have questions about this FAX, please call me.

Total initial activity of Am-241 in liquid form
initial 1mci produced about 1/70
Thus the source has a decay period of about
27 years.

$$T_{1/2} \text{ Am } 241 = 458 \text{ y}$$

$$A = A_0 e^{-0.693 t / T_{1/2}}$$

$$A = (1 \text{ mci}) e^{-0.693 (27 / 458)}$$

$$= (1 \text{ mci}) e^{-0.41 (0.059)}$$

$$= (1 \text{ mci}) e^{-0.024}$$

$$= (1 \text{ mci}) (0.9578291)$$

$$= (1 \text{ mci}) (0.96)$$

$$= 0.96 \text{ mci} \quad \text{is the amount}$$

$$\text{possessed} = 1 \text{ mci}$$