

4 August 1980

U.S. Nuclear Regulatory Commission Region 1 631 Park Avenue King of Prussia, PA 19406

Gentlemen:

8012700635

This refers to your letter dated 16 July 1980 in response to our letter dated 19 May 1980.

## Item B1 - Radiation Surveys of the Nosetip Capsule

The radiation safety officer will be present at all nosetip handling operations. He will personally survey the work area prior to each operation and determine the allowable work time or the basis of the survey. A record will be kept of the actual time spent at each operation for comparison, and the results will be recorded on an operation check list.

We did not respond to that portion of Item B1 which states we failed to evaluate the dose since we interpreted the sentence as implying that we had failed to use a complete set of body dosimeters during the operation. We did respond to this interpretation. Your letter of 16 July implies that you were really interested in the actual dose incurred by the individual, and we replied to this in the following paragraph.

The exposure to the extremities incurred by the individual who handled the nosetip with his hands in given by the film badge readout records for the month. The readout of the records is a maximum since it is for the whole month. However, it should be close to the dose incurred in the nosetip operation, since virtually no other activity was handled by the individual during the period.

The readouts gave: body (waist) = 60 mR, left hand = 930 mR. An estimate of the right hand dose has been computed at 140 mR, the difference being due to the fact that the individual is left-handed and held the nosetip in that hand.

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## Item B2 - Air-Borne Radioactivity, and Item C

An air sampler of capacity of 30 1/min will be used for air-borne contamination monitoring. The filter head connected to the vacuum pump will be placed inside of the hot cell 6 feet above the floor level in the vicinity of radiation workers wearing respirators, thus allowing double-checking of air-borne contamination. The filter and the catridges will be checked for gross contamination using a pancake survey meter (0.025 mR/hr background) followed immediately by low level activity counting. The latter will be performed utilizing a well shielded 2" x 2" NaI crystal and associated electronics which has been calibrated with  $Co^{60}$  NBS standard (for high energy range) and is capable of detecting Ta<sup>182</sup> contamination above 0.1 nano Ci level in reasonable short time.

There seems to be some confusion about exactly how we deviated from the approved capsule opening procedure. What we actually did was not to enclosed the cutter within a plastic box which is being continuously evacuated. We acknowledge that this was contrary to approved procedure.

Instead of trying to get this procedure approved, I have decided to enforce the original procedure. I have directed our radiation workers that from now on all capsules must be opened in approved fixtures using approved procedures including performing the cutting within a plastic box at negative pressure.

I will also be present during all subsequent capsule openings to take radiation surveys and to enforce the original procedure.

Sincerely,

SPIRE CORPORATION

A/ J. Armini Radiation Safety Officer AJA/jem