



PITMAN-MOORE

MS 16
P3

May 3, 1985

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

Attn: John Miller

RE: License No. 29-15623-03
Docket No. 030-17022
Control No. 02886

Dear Mr. Miller:

In reference to your telephone conversation with Dr. Babu on May 2, 1985, the maximum amount of I^{125} that would be released per year per ml would be less than 9×10^{-13} microcuries/ml which is less than 2% of the amount allowed per 10 CFR 20, Appendix B, namely 8×10^{-11} . The corresponding calculation is shown on the attached page.

We trust this meets with your approval. Please do not hesitate to call if there are any questions.

Sincerely,

PITMAN-MOORE, INC.

Richard J. Skalski

Richard J. Skalski
Senior Regulatory Affairs Associate

RJS:las
Enclosure

cc: U. M. Babu

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RECEIVED-REGION 1

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Calculation

Maximum Quantity of I^{125} Released per Year?

1. No. of iodinations per month = 1
per year = 12

Amount of I^{125} used per iodination = 1 mci
per year = 12 mci

2. Percentage of I^{125} lost per experiment = 10%.

Amount of I^{125} lost per year = 10% of 12 mci = 1.2 mci

3. Filter efficiency = 99% minimum (usually 99.97%)

4. Amount of I^{125} not trapped by the filter per year
= 1% of 1.2 mci = 0.012 mci = 12 uci

5. The amount of air filtered through the hood = 900 cubic feet per minute

There are 28,320 cubic centimeters in a cubic feet.

No. of cubic centimeters of air filtered through the hood
= $28,320 \times 900 = 2.5488 \times 10^7$ per minute.

or 1.5293×10^9 per hour
or 3.6703×10^{10} per day
or 1.3396×10^{13} per year

Conclusion:

Amount of I^{125} released per year/ml. = $\frac{12 \text{ uci}}{1.3396 \times 10^{13} \text{ mls.}}$
= 8.9576×10^{-13} uci/ml.

Amount allowed as per 10 CFR 20, Appendix B = 8×10^{-11}

5/2/85

TELEPHONE OR VERBAL CONVERSATION RECORD

TIME

8 AM
8 PM

☐ INCOMING CALL

☒ OUTGOING CALL

☐ VISIT

PERSON CALLING

Miller

OFFICE/ADDRESS

RI KOP

PHONE NUMBER

EXTENSION

(215) 337-5304

PERSON CALLED

Dr. Baba

OFFICE/ADDRESS

Pitman - Moore Inc.
Washington Crossing, NJ

PHONE NUMBER

EXTENSION

(609) 737-3700

SUBJECT

letter dated April 23, 1985

SUMMARY

Miller requested Dr. Baba to submit an effluent concentration calculation of $I-^{125}$ to support his previous submittal dated April 23, 1985. Dr. Baba agreed to submit calculation ASAP.

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ML10

REFERRED TO:

ACTION REQUESTED

See summary

☐ ADVISE ME OF ACTION TAKEN.

INITIALS

JDH

DATE

5/2/85

ACTION TAKEN

INITIALS

DATE