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TERRY E. BRANSTAD, GOVERNOR

DEPARTMENT OF PUBLIC HEALTH
CHRISTOPHER G. ATCHISON, DIRECTOR

May 19, 1997

E. Vincent Holahan
Office of Nuclear Regulatory Research
US Nuclear Regulatory Commission
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Rockville, MD 20852-2738

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Subject: RESPONSE TO TRANSMITTAL OF AGREEMENT STATES PROGRAM
INFORMATION (SP-97-032)

Dear Mr. Holahan:

This is in response to the Transmittal (SP-97-032) dated May 1, 1997, entitled "Draft Rulemaking Plan-Dose Limits to Members of the Public Exposed to Hospitalized Patients." We agree with Option 2 with the modifications discussed below:

- The definition of "Care Giver" is too broad. A nurse who has received no training in radiation safety meets this definition. This will make the rule that requires a nurse to receive radiation safety training prior to caring for patients receiving either radiopharmaceutical or brachytherapy unenforceable. Properly trained nurses are considered occupational workers and have a limit of five rem per year. The definition of a "Care Giver" should exclude any person employed by the licensee unless it is the employee's family member receiving the treatment.
- The Care Giver should be monitored with a direct reading dosimetry only. This will allow more direct control of dose.
- The diagnostic use of radioactive materials should not be considered. Technetium-99m is the isotope of choice for 90 to 95% of diagnostic exams. The average dosage for a diagnostic exam is 20 millicuries. An average time of exam is approximately 3 hours. Considering the 6 hour half life of Technetium-99m, that leaves an average of 14 millicuries at the conclusion of the exam. This does not even consider the biological half life of 4 hours. If patients are instructed to drink plenty of liquids and urinate as much as possible by the Nuclear Medicine Department, there is very little possibility of a family member receiving greater than 100 mrem in one year.

The recently adopted NRC Regulatory Guide 8.39 "Release of Patients Administered Radioactive Materials" allows patients to be released with a dosage of Technetium-99m

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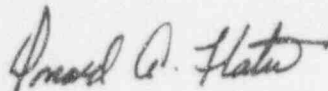
at or below 760 millicuries and dose rate readings at one meter of 58 mrem/hr. This sends an inconsistent message. Besides, dosages of Technetium-99m greater than 40 millicuries significantly reduce the diagnostic value of the exam due to background uptake of other tissues other than target organs.

Furthermore, the diagnostic use of radioactive material is beyond the scope of the petition from the University of Cincinnati. Any inpatient that receives a diagnostic dosage is hospitalized for unrelated medical reasons.

With the exceptions of the above concerns we endorse Rulemaking Option Number 2.

If you have questions concerning this matter, do not hesitate to contact Mark L. Flickinger at (515)242-6281 or me.

Sincerely,



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