Boston University Medical Center

Radiation Protection Office
88 East Newton Street, D-604
Boston, Massachusetts 02118-2394
617 638-7052

Nuclear Regulatory Commission
Secretary of Commission
Washington, D.C. 20555

PR 20 (59FR 9146)

Attn: Docketing and Service Branch

(14)

May 20, 1994

Disposal of Radioactive Material by Release into Sanitary Sewerage

Gentlemen:

We are a large medical research institution using radioisotopes for medical research and in patients. We are opposed to further rulemaking revising the current regulations relating to disposal of radioactive material by release into the sanitary sewerage system as proposed in the Feb. 25, 1994 Federal Register.

In Massachusetts we have been denied access of our low-level radioactive waste at the Barnwell disposal facility. Further restrictions on radwaste disposal via limitations on sanitary sewerage disposal will create further hardship in an already crisis situation.

I have specific comments relating to this proposal.

Exemption of Patient Excreta

a) Attempts to control excreta from diagnostic patients administered radiopharmaceuticals seems ludicrous. Millions of patients are administered diagnostic radiopharmaceuticals. Having an institution trying to control for example urine from bone imaging patients either at the institution or having urine returned from their home to the institution is not a reasonable request.

1) Handling urine represents a potential biohazardous material.

2) The radionuclides administered are short-lived and thus the exposure potential to all is short lived including sewerage treatment facilities which appear to be remote operations.

b) Attempts to control excreta from therapy patients represent a greater exposure potential to the institution than remote sewerage operations. The radionuclide of concern here is I-131.

Therapy Assessment

1) We would have to store urine for decay up to 2 months. Would you want to handle 2 month old urine?

2) There is exposure potential to staff of having to handle and store large millicurie quantities of this potential biohazardous waste. Thus lead bricks will be needed to shield carboy quantities of radioactive urine.

3) There is potential of radioactive volatility from opening when continually adding to a patient urine container.

4) There is a possibility of spilling radioactive urine during processing.

5) Receiving urine from radioiodine outpatients (hyperthyroidism treatment) doesn't appear to be ALARA to our institution. How will the patients comply let alone try to shield this material?

6) Costs to patients will go up to provide further radiation safety precautions for stored urine. There is a net benefit from medical diagnosis and treatment with radiopharmaceuticals that exceeds any minuscule risk from controlling exposure potential from radioactive excreta to a small segment of sewer treatment personnel or sludge.

I have not addressed radioactivity in feces. Please!

c) Disposal of Soluble Aqueous Medical Research Waste

At our institution we dispose of trace levels of soluble radionuclide solutions down "hot sinks". The amounts disposed are trivial compared to radioactive excreta from patients. We have already stated the benefit for patient use of radiopharmaceuticals. There are benefits to using radionuclides in medical research since almost all grant recipients in this institution need to use radionuclides for their research. If radioactive disposal was limited or eliminated this will severely affect our medical research since we will have no way to get rid of certain classes of radwaste at our institution needed for medical research. We have millions of dollars in research grants.

Sincerely,

Victor Evdokimoff
Director Radiation Protection, BUMC