



NATIONAL NAVAL MEDICAL CENTER

BETHESDA, MARYLAND 20014

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IN REPLY REFER TO  
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6470  
25 November 1980

DOCKET NUMBER  
PR 20  
45 FR 67018

From: Commanding Officer  
To: Secretary of the Commission, U.S. Nuclear Regulatory Commission  
Attn: Docketing and Service Branch, Washington, DC 20555

Subj: Disposal of tracer levels of tritium and carbon-14; comments concerning

Ref: (a) Federal Register, Vol-45, No. 197, 6701-67020,  
Wednesday, October 8, 1980  
(b) U.S.N.R.C. ltr dated October 10, 1980  
(c) 10 CFR 20



1. References (a) and (b) announced a proposed rule to reference (c) which would permit greater leeway in disposing of liquid scintillation media and animal carcasses containing tracer levels of hydrogen-3 (tritium) or carbon 14. The proposed rule would have direct and immediate impact on the radiological safety program at this institution. Therefore, this institution endorses the proposed rule and urges that it be made effective as soon as possible.

2. The proposed rule does not cover several other biomedical wastes which contain tracer levels of radioisotopes. This waste is disposed at high cost by shipment to radioactive burial sites, in accordance with current regulations. It is requested that the Commission consider changes to the proposed rule or further rulemaking to cover these wastes, which are listed below:

(a) Aqueous media containing C-14 or H-3 in tracer concentrations, such as used by the BACTEC microbiological detection system. This waste is identical, in a radiological sense, to liquid scintillation media.

(b) Liquid scintillation media or animal carcasses containing tracer levels of radioisotopes other than C-14 or H-3, specifically Cr-51, Ca-45, I-125 and S-35.

(c) Waste from radioimmunoassay and other diagnostic kits containing very low levels of I-125. Aqueous effluents from such kits are disposed via the sanitary sewer. However, solid waste including test tubes, precipitates, pipets etc., are either shipped for burial or held for decay. This waste is the most costly to manage, in terms of manpower, yet the radioactivity levels are barely detectable with common survey instruments.

Acknowledged by card. 11/28/80

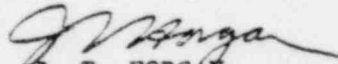
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3. For all radioactive waste, it is recommended that the N.R.C. set a lower radioactivity limit below which an item need not be considered to be radioactive. Such a limit exists in D.O.T. regulations with regard to shipping of radioactive material (49 CFR 173.389(e)). However, an article of radioactive waste is considered contaminated as long as it contains "detectable" levels of radioactivity. Detectability levels depend entirely on the instruments used to assay the item, and modern instrumentation is capable of detecting radioactivity at levels far below any reasonable hazard limit. Thus the present lower limit, i.e., lack of a lower limit, on radioactivity is entirely subjective. The resultant over conservatism in the management of radioactive waste causes excessive waste volume and excessive resource expenditure.

  
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