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RECORD #34

TITLE: Applicability of 10 CFR 20.303(d) to Disposable Diapers
Contaminated With TC-99m

FICHE: 03242-165



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

JAN 16 1979

0.307/7

MEMORANDUM FOR: A. B. Davis, Chief, Fuel Facility and Materials
Safety Branch, RIII

FROM: J. R. Metzger, Division of FFMSI

SUBJECT: INTERPRETATION OF 10 CFR 20.303(d)

Enclosed is an OELD opinion concerning the disposal of diapers contaminated with technetium 99m. The legal opinion agrees with Region III, i.e., diapers are not exempt from the requirements of 20.303 because they contain excreta residue and therefore must be labeled as contaminated waste. The exemption only applies to material actually released to sanitary sewerage.

As another thought, hospitals ordinarily hold contaminated waste for about seven half lives or until there is no detectable contamination and then dispose of the material via normal trash channels. This would be particularly simple for technetium 99m with a 6 hour half life. Of course, waste destined for ordinary trash disposal must be placed in a suitable holding area as contaminated waste until the radioactivity has decayed to nondetectable levels.

J. R. Metzger
J. R. Metzger
Division of Fuel Facility and
Materials Safety Inspection
Office of Inspection and Enforcement

Enclosures:
1. OELD Opinion
2. Request from RIII

cc: w/enclosures
G. H. Smith, RI
J. T. Sutherland, RII
G. Brown, RIV ✓
H. E. Book, RV

JAN 16 1979

NOTE TO: Jack R. Metzger
Division of Fuel Facility and Materials Safety Inspection
Office of Inspection and Enforcement

FROM: Jane R. Mapes, Attorney
Regulations Division
Office of the Executive Legal Director

SUBJECT: APPLICABILITY OF 10 CFR § 20.303(d) TO DISPOSABLE
DIAPERS CONTAMINATED WITH TECHNETIUM 99M.

This responds to your memorandum of December 27, 1978 requesting my views on whether disposable diapers soiled with feces contaminated with technetium 99m and placed in a trash can fall within the exemption for excreta provided in § 20.303(d). I would agree with the position taken by A. B. Davis, Region III, in his memorandum of December 13, 1978 to L. B. Higginbotham, IE, namely that the exemption in § 20.303(d) for excreta from individuals undergoing medical diagnosis or therapy with radioactive materials only applies to excreta discharged into a sanitary sewer system and does not apply to excreta remaining on disposable diapers which are not discharged into a sanitary sewer system but are disposed of in other ways, such as, in this case, by placement in a trash can.

Jane R. Mapes
Jane R. Mapes

cc: James P. Murray, OELD
Library



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
799 ROOSEVELT ROAD
GLEN ELLYN, ILLINOIS 60137

December 13, 1978

MEMORANDUM FOR: L. B. Higginbotham, Assistant Director, Division of
Fuel Facilities and Materials Safety Inspection, IE

FROM: A. B. Davis, Chief, Fuel Facility and Materials
Safety Branch

SUBJECT: INTERPRETATION OF 10 CFR 20.303
(F30452H3)

During a recent inspection of the Milwaukee Children's Hospital, an inspector found an infant's disposable diaper contaminated with Tc-99m in a trash can which was not labeled to indicate the presence of radioactive material and which in fact was a normal cold trash can. The hospital had given diagnostic doses of Tc-99m to infants. Diapers soiled with feces were rinsed in the toilet and then placed in the cold trash.

In response to our citations for failure to survey diapers prior to disposal, and disposal of radioactive material by a means not authorized by 20.301, the licensee has stated they called several children's hospitals across the country and determined that they all use the same method of diaper handling. They also state that 20.303(d) states that "excreta from individuals undergoing medical diagnosis or therapy with radioactive material shall be exempt from any limitations contained in this section," and that this should exempt their diapers.

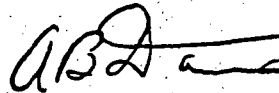
We have contacted Region I and they stated that they have never looked into diaper disposal at medical institutions. Several health physicists in both Regions I and III who have worked at medical institutions have stated that persons receiving diagnostic doses of radioactive material are not considered radioactive and are not segregated from other patients and no special handling is given to their bed clothes, bed pans or excreta. Special handling is reserved to patients under therapy.

In this light, diapers from both children and excreta from incontinent adults undergoing nuclear diagnosis would be considered not radioactive.

December 13, 1978

On the other hand, 10 CFR 20.303 addresses disposal by release into the sanitary sewer. The exception in 20.303(d) applies to excretia that enters the sewer where it is held and diluted before release to an unrestricted area. Our citation was not for the feces washed into the sewer but for material remaining on the diapers in normal cold trash which was disposed of by normal trash removal. There appears to be no exception for material excreted and not disposed via the sanitary sewer.

We request guidance on this matter recognizing that this may have an impact on the actions of other Regions and many licensees. The cognizant individual on this matter is C. J. Paperiello (387-9291).



A. B. Davis, Chief
Fuel Facility and Materials
Safety Branch