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DOCKETED
Council on Radionuclides and Radiopharmaceuticals, Inc.

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Secretary of the Commission
U.S. Nuclear Regulatory Commission
Washington, DC 20555

DOCKET NUMBER
PROPOSED RULE PR 20

Attention: Docketing and Service Branch

(59FR9146)

Date: 5/18/94

Subject: **Federal Register Vol. 59, No. 38, Friday, February 25, 1994.
Advanced notice of proposed rulemaking: Disposal of Radioactive
Material by Release into Sanitary Sewer Systems**

Dear Mr. Chilk,

The attached comments on the above referenced subject are submitted on behalf of the Council on Radionuclides and Radiopharmaceuticals, Inc. (CORAR). CORAR is comprised of representatives of the major manufacturers and distributors of radiopharmaceuticals, radioactive sources and research radionuclides used in the USA for therapeutic and diagnostic medical applications and for industrial, environmental and biomedical quality control and research.

The manufacture of radioactive materials involves the use of process water and cleaning materials that can be slightly contaminated with radioactive materials and that are subsequently disposed into sanitary sewers. Also the use of radioactive products in nuclear medicine procedures results in the disposal of contaminated patient excreta in sanitary sewers. Because of these activities NRC considerations of rulings for disposal into sewers apply to CORAR operations and those of our customers.

CORAR appreciates the need to regulate the disposal of radioactive materials in sanitary sewer. It appears that recent changes in the revised 10 CFR 20 regulations should be more than sufficient to protect sewage treatment plants. We believe it to be inappropriate for the NRC to license sewage treatment plants. In those rare occasions where treated sewage results in contaminated ashes or sludges the NRC should consider imposing more restrictive license conditions to major contributing sources.

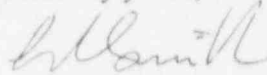
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We appreciate the opportunity to comment on this advanced notice of rulemaking. Please call or write if you need clarification or any further information.

Sincerely yours,



Leonard R. Smith, CHP
Chairperson of CORAR Committee on
Sewer Disposal Regulations

**CORAR COMMENTS ON THE ADVANCED NOTICE OF PROPOSED
RULEMAKING: DISPOSAL OF RADIOACTIVE MATERIAL BY RELEASE
INTO SANITARY SEWER SYSTEMS**

1.
 - a. Doses due to radioactive materials to members of the public and sewage treatment plant workers are known to be generally very low.
 - b. The NRC does not appear to have determined that actual individuals have received doses exceeding public dose limits even in those few cases where measurable radioactivity was determined in sewage treatment plants. Instead the NRC has presented conservative dose estimates which also indicate very little potential for over exposure.
 - c. The NRC should determine the actual collective dose to be adverted to justify any substantial regulatory change.
2. Effluent concentration limits for disposal into sanitary sewers were recently reduced in the revised 10 CFR 20 by about a factor of ten. Since historic contamination cases relate to a period when much higher limits were in effect it appears prudent for the NRC to delay any regulatory changes pending a study to determine the effect of these new regulations.
3. It is not clear in the NRC case studies whether radionuclides were disposed in excess of existing regulatory requirements. It is apparent that the physical forms were not dispersible. It would be inappropriate for the NRC to respond to individual violations of regulatory requirements by making changes to the regulations for all licensees.
4.
 - a. The NRC should establish concentration and quantity limits that ensure that public doses are maintained below the 100 mrem/year limit at the majority of sewage treatment plants. In unusual cases where the number of licensees, size of the sewage treatment plant or nature of the technology used at the treatment plant implies higher doses, the NRC should consider placing additional restrictions on licenses to provide the necessary protection.
 - b. It would be inappropriate for the NRC to license sewage treatment plants. Licensing does not provide a solution to preventing contamination of these plants.

5. In determining appropriate limits the NRC should distinguish between those radionuclides and chemical forms that significantly concentrate in treatment plants and those that do not.
6. The NRC should continue current concentration limits and exemptions for soluble and biological materials in effluent and reestablish (stricter) limits for non-biological, non-soluble dispersible materials.
7. The NRC should model sewer disposal to predict actual doses measured. The current model assuming direct drinking of licensee effluent is not a plausible exposure path. The model needs to realistically consider the actual influent to the plant from both licensees and other users to determine more realistic dilution factors. The model should consider that sewage contains many materials more hazardous than radioactivity that requires isolation and special handling to avoid personnel exposure.
8. It will be impractical and potentially hazardous to sample patient excreta. If there is any net benefit it is unlikely that it will be sufficient to justify the cost, particularly since much of the patient excreta will be disposed from households. Also there is no need for sampling since contamination levels are very low.
9. Ohio's request for 24 hour notice on radionuclides released to the sanitary sewer is impractical since every user including households releases small amounts of radionuclides every time effluent is disposed in the sewer. It might make sense that sewage treatment plants be notified of large accidental releases. However, this reporting capability already exists. It is not, of course, possible to predict an accidental release 24 hours, in advance, by definition.