

STATE OF ILLINOIS
DEPARTMENT OF NUCLEAR SAFETY (59FR 9146)
1035 OUTER PARK DRIVE
SPRINGFIELD, ILLINOIS 62704-1512

Jim Edgar
Governor

217-785-9900

217-782-6133 (TDD)

Thomas W. Ortziger
Director

DOCKETED
OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

May 26, 1994

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

Attention: Docketing and Service Branch

Re: Disposal of Radioactive Material by Release into Sanitary Sewer Systems

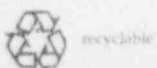
Gentlemen:

The Illinois Department of Nuclear Safety (Department) hereby submits its comments on the referenced advanced notice of proposed rulemaking. We were pleased to see that NRC chose to begin discussion on this very sensitive issue in the Advanced Notice of Proposed Rulemaking (ANPR) stage, rather than as a proposed rule. Comments received on the ANPR should assist you in determining the need, or lack of a need, to proceed further.

The first issue you have asked for information and comment on is the form of material allowed for disposal. The Department adopted regulations equivalent to 10 CFR Part 20 allowing only readily soluble or readily dispersible biological material to be released into sanitary sewerage. The Department also recognizes that new sewer treatment technologies are under development, but would caution NRC about developing regulations to match developmental technologies. There are no guarantees the new technologies will be used, and no evidence that indicates these new technologies would result in increased radiation exposure to workers or the public. We think it is prudent for NRC to keep abreast of technological developments, but do not believe additional restrictions on disposal of these wastes should be implemented with no significant evidence of need.

The second issue for comment is the total quantity of material which could be released into sanitary sewers. Departmental staff reviewed NUREG/CR-5814, "Evaluation of Exposure Pathways to Man From Disposal of Radioactive Materials Into Sanitary Sewer Systems" and found no evidence to support the idea of limiting the total quantity of each radionuclide as mentioned in the ANPR.

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The Discussion section of the Federal Register notice summarized the NUREG's modeling scenarios which estimated doses to workers at sewage treatment plants to be from 0.2 to 93 mrem/year. The dose estimate of 93 mrem/year represents an upper bound of doses that could be received assuming all material was released at the 10 CFR Part 20 limits and subsequently reconcentrated. Even the highly unlikely worse-case scenario results in doses less than the current dose limit of 100 mrem/year for members of the public. We also note that at least five of the six case studies did not result in any actual significant exposures to workers or members of the public. It appears that the few cases that might be of concern could be handled on an ad hoc basis, rather than by rule.

The NUREG also reviewed current industry practice regarding sewer disposal of radionuclides and found that only five radionuclides (Co-60, Sr-90, Cs-137, Ir-192 and Am-241) are of the most concern from a potential public dose perspective. Since NUREG/CR-5814 was completed in 1991 and published in 1992, well before the new 10 CFR Part 20 disposal limits were implemented by licensees, the Department recommends that NRC focus its attention on facilities disposing of Co-60, Sr-90, Cs-137, Ir-192 and Am-241 via sewers. It is possible that these facilities no longer meet the criteria to qualify for sewer disposal and would no longer pose a threat. If this is the case, there is no evidence to support the idea of changing disposal limits at this time.

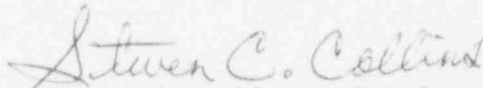
The second issue for comment also mentions a petition for rulemaking requesting that NRC amend its regulations to require all licensees provide notice to sewage treatment plants 24 hours prior to release of radioactive material. The Department is concerned that this type of notification could lead to misinterpretation of the transmitted information. What do the sewage treatment plants intend to do with such notification? Would they expect a notification or phone call from every hospital, clinic and nuclear laundry on a daily basis? The Department agrees that licensees must dispose of their wastes in a responsible manner, and disposal records are reviewed during each facility inspection. Requiring licensees to perform an additional notification for a practice currently allowed under the regulations is unnecessary.

The third issue requests comments on the methods for limiting releases to sanitary sewers. Based on the information presented in the NUREG discussed above, the Department sees no need to modify the current approach to limiting releases.

The last issue to be addressed concerns the exemption of patient excreta. The Department would like to see NRC continue this exemption not only because medical procedures typically use radionuclides with short half-lives, but also because requiring hospitals to collect patient excreta would be an extremely costly administrative nightmare, especially for out-patient studies. The only option for hospitals and clinics would be to require patients to collect excreta and either hold it for decay or return it to the licensed facility for decay and disposal. This is obviously unenforceable, and would cause quite a problem for facilities using mobile nuclear medicine services. These facilities might need to obtain a license just to handle the waste from patients, which involves significant costs.

Thank you for the opportunity to comment on the Advanced Notice of Proposed Rulemaking. If you have any questions regarding these comments, please contact me or Kathy Allen at (217) 785-9947.

Sincerely,



Steven C. Collins, Chief
Division of Radioactive Materials

cc: Jim Lynch, State Agreements Officer