

June 14, 2006

Richard A. Ratliff, P.E.  
Radiation Program Officer  
Texas Department of State Health Services  
1100 W. 49<sup>th</sup> Street  
Austin, Texas 78756

Dear Mr. Ratliff,

I am responding to your April 24, 2006, request for clarification regarding the U.S. Nuclear Regulatory Commission (NRC) process for evaluating licensee requests for alternative disposal under 10 CFR 20.2002. Your questions on the process, including the Environmental Assessment (EA) performed for such requests, and our responses, are enclosed.

Last year, the Commission recognized the increased stakeholder interest in 10 CFR 20.2002 authorizations providing for alternative methods of disposal of low-activity radioactive waste. To improve public understanding and awareness of this provision, the Commission directed the staff, on March 31, 2006, to enhance the staff's outreach measures for these requests, as described in Option 2 in SECY-06-0056, "Improving Transparency in the 10 CFR 20.2002 Process." Among other things, that option provides for increased coordination between the NRC licensee, NRC staff, the State permitting agency, and the disposal facility operator so that all directly affected stakeholders are informed and understand the bases for NRC decisions. As we develop an internal procedure for these interactions, we look forward to working with Texas staff to ensure that any additional concerns that you have are considered and addressed. I also

R. Ratliff

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want to note that NRC approvals/exemptions under 10 CFR 20.2002 do not supercede or override the State RCRA permit and its requirements which could restrict the radiological concentration or inventory allowed in the RCRA disposal site.

Please contact James Kennedy of my staff at 301-415-6668 if you have any further questions.

Sincerely,

**/RA/**

Scott Flanders, Deputy Director  
Environmental and Performance  
Assessment Directorate  
Division of Waste Management and  
Environmental Protection  
Office of Nuclear Material Safety  
and Safeguards

cc: S. Jablonski, Texas Commission on Environmental Quality  
J. Lynch, Yankee Atomic Electric Co.

Enclosure: As Stated

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REPLY TO LETTER FROM TEXAS DEPARTMENT OF STATE HEALTH SERVICES

REQUESTING CLARIFICATION RELATED TO

ALTERNATIVE DISPOSAL UNDER 10 CFR 20.2002

Question 1. Is it a standard practice in the review and preparation of the Environmental Assessment to review the following items at the specific disposal site named by the licensee in a 10 CFR 20.2002 (20.2002) request:

- a. the types and quantities of existing radioactive material disposed of at a specific disposal site;
- b. the total estimated future radioactivity that may be at the disposal site due to the disposal site operator seeking customers who may receive approvals from NRC under 10 CFR 20.2002;
- c. any non-AEA material present or potentially present at the site; and
- d. multiple requests from different licensees for multiple types and quantities of for radioactivity to be disposed of at the same disposal site?

Answer: It has not been standard practice to request the information cited in your question. Obviously such information could be useful in a cumulative impacts assessment. However, the NRC has managed the cumulative impacts by limiting the impacts of the individual request, and ensuring that the disposal of licensed material is a small fraction of the waste disposed per year at the facility.

In general, NRC practice has been to approve 20.2002 requests for offsite disposal as long as the impacts are a few mrem per year. For requests that fall into these bounds, it is generally viewed as unnecessary to perform detailed cumulative impact analysis as the likelihood of a site receiving enough other radioactive material to result in public exposures over the public dose limit (one measure of significant impact) of 1 mSv (100 mrem) per year is negligible. The staff reached this conclusion from both staff experience of previous analyses, and analyses presented in NUREG-1717, "Systematic Radiological Assessment of Exemptions for Source and Byproduct Materials." For most off-site disposal 20.2002 requests, the critical group receiving the greatest doses would be the disposal site operators, especially the operators involved in placement and covering activities. Most of these analyses assume a significant amount of the work year for these individuals (i.e., 25% of the year or more) being exposed to these materials at undiluted amounts. Therefore, even if the operators, who are calculated to be the highest exposed, worked consecutively on four such 20.2002 requests (or similar quantities of non-Atomic Energy Act material), the total annual dose would less than 0.2 mSv (20 mrem). However, the realistic situation is that the materials will quickly be covered by either other non-radioactive waste or by soil lifts as per the general landfill requirements, and that the workers will not exclusively deal with radioactive shipments at a non-radioactive disposal facility thereby resulting in a much lower dose to the workers.

Our general practice is to request that the licensee provide information on the total volume of waste that the specific disposal facility accepts per year. This allows an additional

determination if more specific information is required on the facility. In general, the 20.2002 requests do not directly account for dilution of the waste material with non-radioactive waste or the additional shielding to workers that it would provide. If the volume of radioactive waste received by the facility is relatively small compared to the total annual disposed non-radioactive waste, the 20.2002 analyses for long-term performance should bound the potential exposures. If it were found that the 20.2002 waste would be a significant fraction of the volume received by the facility, the staff may request information such as you identified in your letter to investigate the potential cumulative impacts from other potential disposals of radioactive materials.

On May 23-24, 2006, the Low-Level Waste Working Group of NRC's Advisory Committee on Nuclear Waste held a workshop on NRC's low-level radioactive waste program. Among the topics discussed at the meeting was the use of 10 CFR 20.2002 disposals. Representatives from both Waste Control Specialists and the Texas Commission on Environmental Quality (TCEQ) discussed 20.2002 authorizations. Waste Control Specialists noted that it conducts dose assessments using conservative assumptions and taking into account a conservative estimate of the radioactivity in the facility. Staff from TCEQ raised some of the same questions contained in your letter. We look forward to further discussion of the issues raised in the workshop to assist us in developing an internal procedure for processing 10 CFR 20.2002 requests.

Question 2. Is the exemption granted for this particular 10 CFR 20.2002 request [from Yankee Atomic Electric Power and naming the RCRA site operated by Waste Control Specialists, Inc. as the disposal site] only an exemption from further licensing requirements or does it also exempt this particular waste stream from being classified as low-level radioactive waste?

Answer: By virtue of the exemption for the site operator from NRC licensing requirements, the material would no longer be required to be disposed of as low-level radioactive waste in a facility licensed under the LLW disposal regulations in 10 CFR Part 61 or Agreement State compatible regulations. The material may still be classified as radioactive material with respect to other State and Federal regulations.

Question 3. Why does the approval for alternate disposal under 10 CFR 20.2002 name a specific RCRA site if the waste is truly exempt?

An exemption from NRC licensing requirements would appear to indicate that the exempted material is acceptable for disposal in any such RCRA site.

Answer: The 10 CFR 20.2002 request and approval is conditioned on the specific material and the proposed disposal site. Also, a specific disposal site is named because the NRC is exempting the receptor site from licensing requirements for possessing the particular material which is the subject of the 20.2002 request. While it is possible that the material might be acceptable for disposal at any comparable site to the one requested, NRC considers 20.2002 requests on a case-by-case basis and its approval is based on the information provided about the particular receiving facility; e.g., the nature and location of other potentially affected licensed and unlicensed facilities. Thus, it is also possible that the site-specific features of a particular site might be comparable in some respects but not in others, resulting in different outcomes for the 20.2002 request. NRC approvals/exemptions under 10 CFR 20.2002 do not supercede or override the State RCRA permit and its requirements which could restrict the radiological concentration or inventory allowed in the RCRA disposal site.