From: Miller, Mark <MILLERM@abqpost.rfweston.com>
To: Phyllis Sobel <PAS@nrc.gov>
Date: 9/26/97 9:42pm
Subject: FW: POTW Radiation Guidance Document

Phyllis...
Additional thoughts.

MMiller

From: Miller, Mark
To: 'bastian.robert@epamail.epa.gov'
Subject: POTW Radiation Guidance Document
Date: Friday, September 26, 1997 4:20PM

Bob,

I was re-reading the May '97 Guidance Document again. Upon reflection, I believe that lines 19-37 on page 4 of the document open a Pandora's Box of headaches for everyone. It should be replaced with something a LOT less ambiguous and inviting to trouble such as:

Local Authorities: Local authorities are derived from the Federal and State statutes and regulations and will vary from locality to locality. The authority to regulate the discharge of radioactivity into the sewer is clearly relegated to the Nuclear Regulatory Commission, in accordance with the Atomic Energy Act. Local authorities may choose to limit radioactive discharges provided they have a compelling basis other than risk to justify their actions, though such a basis is likely to be subjective and difficult to support.

DON'T invite POTWs to enter this lose-lose fight with some of the rest of the language that is in that paragraph. Lines 20-23 about how the "NRC has found"... refers to the letter that NRC legal counsel wrote to the City of Laramie, WY in 1993. My opinion is that letter should have never been sent. It invited much of the confusion that exists today, what we see in this paragraph and what the city of Santa Fe has imposed on the INS Laundry there. You yourself probably have a better feel about this considering the reactions and comments from POTWs that you've heard at WEF/AMSA meetings.
My opinion is that this logic should simply be kept "silent". If POTWs choose to enter the legal arena (such as Santa Fe has, largely based on their reading of the NRC-Laramie letter), let them do it without prompting or encouragement! Lawyers will be the only winners in this battle. In reality, if POTWs would work in cooperation with the appropriate regulating authority, there will be more efficient regulation and POTWs will save unnecessary expense wrestling with an issue that is not rightly theirs.

Let me know how the 10/20 session at WEFTEC goes!

MMiller

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December 2, 1997

Mr. Robert Bastian
Office of Wastewater Management
401 M Street, S.W.
U.S. Environmental Protection Agency
Washington, D.C. 20460

Re: Draft Guidance for POTWs on Radioactive Materials in Sewage Sludge/Ash, dated May 1997

Dear Mr. Bastian:

The enclosed comments in response to the draft "Guidance for POTWs on Radioactive Materials in Sewage Sludge/Ash" referenced above have been submitted to the U.S. Nuclear Regulatory Commission on behalf of Interstate Nuclear Services (INS). INS is licensed by the NRC and a number of NRC Agreement States under the laundry classification of radioactive materials licensees. INS reduces the amount of radioactive waste generated in the U.S., by providing a service which allows for re-use of protective clothing at nuclear enterprises nationwide.

As discussed in the enclosed comments, INS has several significant concerns with the proposed POTW Guidance. Most of these focus on the NRC and EPA's proposed development of standards for concentrations of radionuclides in sewage sludge and ash and the related NRC and EPA recommendations that POTWs take action if such concentrations are exceeded.

From the perspective of the EPA's regulatory authority, our most significant comment is that the development of such standards for concentrations of radionuclides in sewage sludge and ash is premature and unnecessary. Prior studies conducted by both agencies have identified no imminent threat to public health and safety or the environment. Furthermore, the NRC and the

Miller	Guidance, page 4. Provides suggested rewrite of "Local Authorities" text.	NRC EPA
Fuller Raabe Killar TechLaw	The effect of the guidance document is to improperly shift responsibility for radiological protection from the NRC to local governments. The Albuquerque and St. Louis examples conflict with the NRC's exclusive legal authority and these examples should be dropped.	NRC
Fuller Killar	Guidance, page 1. POTWs should not be encouraged to ask licensees to report discharges.	NRC
Raabe	Postpone the guidance document until the results of the survey are assessed.	All
Hadeed Fuller Raabe Killar TechLaw	Remove the table with concentration-to-dose factors.	
TechLaw	Define the role of the State radiation control program as an advisor and counselor to the POTW.	Lipoti
TechLaw	Examples of costs to POTWs	Kearney or Lehnart
TechLaw	Define ISCORS and its purpose	NRC
TechLaw	Guidance, section 3. Add text on whether there is any radioactivity that goes out in effluent and whether there is any problem in the collection system.	EPA
TechLaw	Guidance, last two paragraphs on page 5. Rewrite to show an understanding of how POTWs operate, how radionuclides are concentrated into sludge, how incineration affects the concentration, and which radionuclides are likely air emissions.	EPA
Killar	For developing concentration limits, use a 100 mrem/yr standard for source material and 25 mrem/yr standard for man-made radioactivity.	~~EPA~~ Subcommittee
All	Editorial and minor technical comments	TechLaw

JOINT (Done)

INPUTS TO POTW GUIDANCE DOCUMENT

Commenter	Comment	Agency
Miller	Update the Albuquerque example in Appendix F	Miller
Mendoza	Update the St Louis example in Appendix F	Mendoza
Mendoza	Is NRC concerned about multiple discharges? Do limits at an individual licensee account for multiple dischargers into a sewer line?	NRC
Mendoza	Are regulations planned for sewage discharge from a POTW?	EPA
Mendoza TechLaw	Does 40 CFR 503 have primacy over 10 CFR 20? Need clearer discussion of 40 CFR 503 regulations and their potential relevance.	EPA
Mendoza	Must DOE dischargers notify the POTW or get approval prior to discharging?	DOE
Mendoza	Are there limits for radionuclides in POTW sludge/ash or the wastewater?	EPA
Mendoza	Guidance, page 4, line 11. Change Safe Drinking Water Act to Clean Water Act.	EPA
Mendoza	Add citations to appropriate regulations.	EPA NRC DOE
Mendoza	Is there a concern about exposure to sewage in the collection system or wet wells?	EPA
Hadeed	Guidance, page 1, line 34. Additional guidance is needed on how POTWs identify "other activities" which discharge radionuclides to POTWs. What are these other sources?	EPA
Hadeed	How do DOE regulations compare to NRC's?	DOE
Hadeed	How is the DOE regulatory update being coordinated with NRC's potential review of its regulations?	DOE
Hadeed	For low level radiatic[illegible] naturally occurring materials not regulated by NR[illegible]ich isotopes can be expected, at which concentrations, what are the sources, where are they likely to be found, and which test accounts for their activity?	EPA

Hadeed	Guidance, page 4. What can and can't POTWs do with regard to regulating materials?	EPA NRC
Hadeed	Why is the St. Louis 1 curie/yr limit being reviewed? Do discharges of stored materials contribute toward the 1 curie/yr aggregate limit?	Mendoza
Hadeed	Guidance, section 3. Provide more specific information on the relative contributions from natural, man made and global fallout sources.	EPA
Hadeed	Provide more information on the impacts of man-made sources such as excretions by medical patients, residuals discharged from drinking water treatment plants, releases from licensed manufacturing facilities, and producers of foil elements in smoke detectors. Describe their licensing and compliance status and potential control strategies to prevent biosolids contamination.	EPA NRC
Hadeed	Explain why the cleanup of the New York treatment plant occurred and why the State of New York assumed responsibility.	NRC
Hadeed	Guidance, page 6. Consider adding doses (for example, the range of exposures for airline pilots living in Denver).	EPA
Hadeed	Guidance, page 11. Further explain how people can be exposed to radioactivity in sewage sludge.	EPA
Hadeed	Guidance, page 11. What is meant by the "nature" of industries discharging to the collection system.	EPA
Hadeed	Guidance, pages 11-12. Provide a list of labs that perform gamma spec analyses, additional guidance on minimum laboratory qualifications, and how to select a laboratory.	NRC EPA
Hadeed	Guidance, page 12. Explain what is a "well-mixed" sample.	EPA
Hadeed	What kinds of data do gamma spec and gross alpha/beta analyses provide, etc. How much time should the analysis take?	NRC
Hadeed	Many other comments for NRC (list distributed at August 25 subcommittee meeting)	NRC
EPA/OW reviewer	Every POTW should do any analysis to establish a baseline for that POTW.	EPA
Pickrel	Guidance, page 4. Questions about POTWs authority.	EPA

NRC & EPA JOINT RESPONSE

NRC

WORK ASSIGNMENT

WORK ASSIGNMENT TITLE: Support to EPA for ISCORS Sewage Sludge Subcommittee

CONTRACTOR: TechLaw Inc.

CONTRACT NUMBER: 63D-5-0174

WORK ASSIGNMENT NUMBER: 3-12

LEVEL OF EFFORT: 465 Hours

PERIOD OF PERFORMANCE: Date of Contracting Officer approval through September 30, 1999

WORK ASSIGNMENT MANAGER: Behram P. Shroff
Radiation Protection Division, 6602J
Washington, DC 20460
Telephone: (202) 564-9707

1. BACKGROUND

Under the sponsorship of the Interagency Steering Committee on Radiation Standards (ISCORS), and its Subcommittee on Sewage Sludge and Ash, the EPA and NRC are conducting a joint survey of publicly owned sewage treatment works (POTWs) nationwide. This survey is designed to identify POTWs whose sludge or ash may have elevated levels of naturally occurring radioactive material (NORM), or reconcentrations of radionuclides discharged by industries utilizing NRC licensed radioactive sources. The NORM could originate from a number of sources such as high background levels of naturally occurring radionuclides in ground and surface water, residues from the production/treatment of drinking water; mining, oil and gas extraction, or phosphate production.

As detailed in Task #2 in Work assignment 2-12, EPA and NRC will be selecting about 600 POTWs nationwide to send a questionnaire on their treatment and waste disposal practices. These sites will be selected on the likelihood of finding enhanced radiation either for discharged nuclear licensed material or NORM sources. Based on the responses to the questionnaire, 300 sites will be selected for physical sampling to analyze the radionuclide content of the wastes. Depending on the results of the analysis, steps may have to be taken to reduce exposure to POTW workers and the public.

To prepare the workers and public, the ISCORS Subcommittee prepared a Guidance Document, explaining NORM, radiation in general, and the responsibilities of regulatory agencies. Task #3 in Work Assignment 2-12 was to revise the Document; this work assignment seeks to build on the revision by addressing additional questions (discussed below) of interest to POTW workers and the public.

2. PURPOSE - The work assignment is to obtain contractor support to (1) Prepare a Work Plan and Quality Assurance Project Plan (QAPP) for completing this project (2) Revise the Guidance Document to address additional issues and (3) Conduct analytical screening to determine dose/risk levels from exposure.

3. SCOPE OF WORK

In meeting the requirements of this work assignment, the contractor shall be in a support role and will NOT be involved in the development of EPA policy, nor in any other activity that is an "inherently Governmental function".

Task 1: Prepare Work Plan and cost proposal. The contractor shall submit a draft Work Plan within two weeks after receipt of the Work Assignment. The draft Work Plan shall detail the contractor's approach for accomplishing the Work Assignment, including a schedule of deliverables, staffing plan (with statements of experience), estimated labor hours and a detailed cost proposal, with relevant ODCs, on a task by task basis.

The QAPP shall address quality assurance (QA) and quality control (QC) to demonstrate how these activities will be implemented during the Work Assignment. It shall address how the quality of the work for Task 3 will assure that the expectations and requirements of compiling the waste characterization, evaluating the radiation dosage pathways and conducting the risk assessment will be met. The QAPP shall also address how the Contractor will assure that the models used, updated or revised as a result of this effort will maintain their scientific and technical validity, it shall address documentation, and it shall address software testing and performance evaluation

The contractor shall submit for approval by EPA's WAM and QA representative the Work Plan and QAPP within two weeks after receipt of the Work Assignment. The Work Plan shall detail the contractor's approach for accomplishing the Work Assignment, including a schedule of deliverables, staffing plan (with statements of experience), estimated labor hours, and a detailed cost proposal, with relevant ODCs, on a task by task basis. The QAPP shall also address how the contractor will assure that the models used, updated or revised as a result of this effort will maintain their scientific and technical validity, it shall address documentation, and software testing and performance evaluation.

Task 2. Revise the Guidance Document to address additional issues.

The issues are (1) Who are the Related Regulatory Agencies and their Roles (2) What Should a POTW Operator Do if there is a Problem and Who can Assist, and (3) Actions to be Taken If Significantly Elevated Radionuclide Concentrations are Discovered. The basis for this work will be Task #3 in Work Assignment 2-12 supplemented with comments by reviewers from the ISCORS Sewage Sludge Subcommittee.

SOW Reference Sections A. 10, 11, 14, 16, 17, and B.1 and 2

Task 3: Determine dose/risk levels from exposure.

Conduct analytical screening upon Technical Direction from the Work Assignment Manager, using models such as PRESTO-CLEAN, CAP-88, @RISK, and RESRAD. The models are to be applied to scenarios in Work Assignment 97-02. Only the high, median, and low POTW sludge sample results received through June 30, 1999 should be modeled. A second analysis should be made after all the POTW sludge sample analyses are received as of August 31, 1999. The goal is to achieve a safe dose/risk level not greater 10^{-4}, in excess of which steps will have to be taken to protect the exposed individuals. A list of radionuclides to be modeled will be provided by the WAM. Both sensitivity and uncertainty analyses should be conducted.

SOW Reference Sections A. 1, 2, 3, 6, 10, 14, 16, 17, and B.1 and 2.

4. SCHEDULE AND DELIVERABLES

TASK NO:	DELIVERABLE	DUE DATE
Task 1:	Work Plan and Cost Proposal.	Within 14 days after receipt of Work Assignment.
	Quality Assurance Project Plan	Within 14 days after receipt of Work Assignment and before commencing with Task 3
Task 2:	Address three additional questions in the Guidance Document for POTW operators and the Public	January 30, 1999
	Final report.	Ten days after receipt of WAM comments on draft report.
Task 3:	Determine dose/risk from exposure to sewage sludge	Provide results by July 31, 1999 for initial batch of samples received through June 30, 1999. A final analysis of all samples received through August 31 should be provided by September 30, 1999

The contractor shall submit five (5) copies of each version of the reports prepared for tasks 2 and 3 as well as two (2) copies of each on IBM PC compatible computer disks in formats suitable for use by EPA for editing. The information also should be provided in formats suitable for the Internet, (e.g. Adobe Acrobat or HTML), as proposed by the contractor and approved by the WAM.