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MAR 26 1982

The Honorable Mike Synar
United States House of Representatives
Washington, DC 10515

Dear Congressman Synar:

This is in response to your March 4, 1982 letter to Chairman Palladino which forwarded a series of questions regarding NRC's uranium mill tailings regulations. The responses to your questions are provided in the enclosure for insertion in the hearing record.

If you need any additional information or we can be of further assistance in connection with this matter, please contact us.

Sincerely,

(Signed) William J. Dircks

William J. Dircks
Executive Director
for Operations

Enclosure

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OFFICE	CONGRESS	H-DATE	X	CATEG	SUBJECT	QNO	SEQNC	DESCRIPTION
NMSS	SYNAR	820303		BUDGT	LICENSEE REQUIREMENTS	1		Funds expended to implement Ur Mill lic reqmnts
NMSS	SYNAR	820303		WASTE	RADIOACTIVE RELEASES	6		Comments re stmnt on radon emanation fm Ur wastes
NMSS	SYNAR	820303		RULMK	URANIUM MILLS-LICENSING	3		Intent to reconsider Ur Mill lic reqmnts
NMSS	SYNAR	820303		WASTE	URANIUM MILLS-LICENSING	1		Funds expended to implement Ur Mill lic reqmnts
NMSS	SYNAR	820303		RADIA	URANIUM MILLS-RELEASES	6		Comments re stmnt on radon emanation fm Ur wastes
NMSS	SYNAR	820303		RADIA	URANIUM MILLS-RELEASES	7		Health effects fm low-level exposures fm Ur mills
NMSS ELD	SYNAR	820303		RULMK	URANIUM MILLS-TAILINGS	2		Coordinat of Ur tailings reqs w/EPA site standards
NMSS	SYNAR	820303		RULMK	URANIUM MILLS-TAILINGS	4		Coordinate w/DOE re Ur Mill tailings stabilization
NMSS	SYNAR	820303		WASTE	URANIUM MILLS-TAILINGS	5		Views:onsite stabilization vs tailings piles moved

SORTED BY SUBJECT

QUESTION. Dr. Palladino, is NRC currently spending funds to implement or to enforce its Uranium Mill Licensing requirements either against its licensees or in states which regulate their own uranium mills?

ANSWER.

No. Since December 4, 1981, the date of enactment of Public Law 97-88 (NRC's FY 1982 Appropriation Act), NRC has not expended any funds to implement or enforce the Uranium Mill Licensing Requirements either with respect to the Commission's own licensees or Agreement States. As indicated in the related provision of P.L. 97-88, the Commission is continuing to regulate uranium mill tailings material in the same manner as such materials were regulated prior to issuance of the suspended regulations (i.e., the licensing staff is using previously issued Regulatory Guides and Staff Technical Positions as licensing guidance.) Likewise, the Commission will use this guidance, standard license conditions, and the authorities derived from the Atomic Energy Act, as amended, and the Uranium Mill Tailings Radiation Control Act, as amended, to determine the adequacy of any requests from agreements states for amended agreements covering byproduct material as tailings.

QUESTION. 2 If EPA issues its inactive site standards prior to October 1, and these standards differ from those in NRC's regulations, will NRC voluntarily suspend its regulations and reconsider them?

ANSWER.

No. The standards you refer to are not applicable to active and new tailings disposal sites. However, when EPA does promulgate the standards for active and new sites, the NRC will initiate rulemaking proceedings to make any necessary revisions to the tailings regulations.

QUESTION. 3 Has NRC initiated any effort to review or reconsider the new regulations in view of the criticisms by DOE, industry, and various experts?

ANSWER.

A number of industry organizations have filed suit against NRC's Uranium Mill Licensing Requirements in the 10th Circuit Court of Appeals in Denver, CO. Although the petition requested an immediate stay of the requirements, the Court declined to grant such a stay ruling that the regulations remain effective during the period of litigation. Subsequently, with the enactment of Public Law 97-88, NRC has been prohibited from implementing or enforcing the mill tailings regulations during FY 1982. The regulations, however, remain as codified rules. The Commission has not formally initiated any effort to reconsider the regulations. However, during a recent meeting in Denver, CO. with numerous operators regarding the current NRC mill tailings review process the regulations were discussed. It has become apparent from these discussions that many aspects of the institutional and the majority of technical criteria which the industry had expressed concern over could be worked out to the mutual agreement of both the NRC and industry organizations through the issuance of staff positions containing appropriate interpretive language. NRC staff will seek to provide such clarification to the extent that they are able to under the law. The only issues which do not appear to be reconcilable in such a fashion are the 2 $pCi/m^2/sec$ radon control requirement and the minimum cover thickness required for long-term tailings isolation. These are issues that will be resolved when EPA promulgates the standards for active and new mill tailings disposal sites.

QUESTION. Has NRC made any effort to take into account DOE's view concerning mill tailings stabilization? 4

ANSWER.

Yes. In fulfilling our consulting and concurrence role under Title I of the Uranium Mill Tailings Radiation Control Act of 1978, we work very closely with the Department of Energy (DOE) on the uranium mill tailings remedial action program (UMTRAP) for the inactive sites and are very cognizant of their views concerning tailings stabilization. Although DOE chose not to formally comment on the NRC draft regulations, we considered their views as well as the vast array of formal comments received before issuing final rules. As we noted in the Statement of Considerations accompanying our regulations, the experience gained in the implementation of UMTRAP will probably result in the need to revise the NRC regulations.

QUESTION. 5 Particular concern has been expressed about enormous costs, estimated in the tens and hundreds of millions of dollars, of moving existing tailings piles in order to comply with the Uranium Mill Licensing Requirements. Can you confirm that the Commission plans to concentrate on on-site stabilization and does not intend to require tailings piles to be moved?

ANSWER.

As indicated in the Statement of Considerations which accompanies the Uranium Mill Licensing Requirements, the regulations were developed recognizing that it may not be practicable to provide the same measures of protection at existing sites as can be done at new sites where alternatives are not limited. NRC has repeatedly indicated that on-site disposal is the norm contemplated. In the context of the Uranium Ore Residue Hearings last summer NRC explained to Congress that,

> "Moving an entire tailings pile is an extreme worst case in that all other options would have to have been evaluated and found to be unsatisfactory. A great deal of flexibility exists in terms of options to stabilize the tailings pile in place. Our licensing experience indicates that through recontouring and covering and hardening the tailings pile in place, the necessary level of assurance concerning long term stability can be achieved at most, if not all, existing sites." (letter, Mr. Kammerer (NRC) to Chairman Stratton.)

Similarly, Mr. Martin of NRC also testified that "frankly...we...share EPA's view that they [tailings piles] should not be moved except as a last resort, and even then they shouldn't be moved very far...."

QUESTION. 6 Dr. David Rosenbaum, former head of EPA's Office of Radiation Programs, has criticized EPA and NRC efforts to reduce radon emanation from uranium wastes as illogical given that the major public exposure to radon is from naturally-occurring indoor radon, which the government is encouraging in its energy conservation programs. Have you considered this point?

ANSWER.

Based on past discussions with Dr. Rosenbaum, the staff is of the opinion that Dr. Rosenbaum was indicating by his remark not that the standards related to radon emanation be relaxed but that more attention should be given to public radiation exposures resulting from encouraging insulation-tight houses.

QUESTION. Isn't it true that NRC has stated that "we know of no data or studies which indicate definitely that health effects do or do not occur at the low levels of exposures that are anticipated to result from operations of uranium mills"?

ANSWER.

Yes. The existing epidemiological data do not rule out, without any doubt, the possibility of zero health effects--that is, that the so-called linear non-threshold of health risk overestimates risk. However, preponderance of judgment in the technical community is to use the more conservative approach for the reasons indicated below.

Risk estimators developed by the NRC staff are based upon the BEIR Committee (National Academy of Sciences Committee on the Biological Effects of Ionizing Radiation) work because in the United States the principal expertise in estimating health effects from low levels of ionizing radiation lies with the National Academy of Sciences group. The BEIR I Report consisted of a comprehensive review and reevaluation of the scientific basis of radiation exposure on humans by scientists who are eminent in their fields. The Generic Environmental Impact Statement of Uranium Milling (GEIS) risk estimators are also consistent with the recommendations of a number of other radiation protection organizations such as the National Council on Radiation Protection and Measurements (NCRP), the International Commission on Radiological Protection (ICRP), and the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR). These organizations represent the views of the overwhelming majority of the members of the scientific community.

The latest report of the BEIR Committee (BEIR III) states (p. 140),

> "for high-LET* radiation, such as from internally deposited alpha-emitting radionuclides, the application of the linear hypothesis is less likely to lead to overestimates of risk and may, in fact, lead to underestimates."

Most of the estimated doses in the GEIS were from high-LET radiation from alpha emitters. Consequently, the NRC staff thinks that the health effects estimates in the GEIS were not overestimates, and that the use of the linear nonthreshold model in the GEIS is supported by the collective judgment of the scientific community.

* Linear energy transfer - a measure of the rate at which charged particles resulting from radioactive decay deposit their energies in tissue.