

Los Alamos

Los Alamos National Laboratory  
Los Alamos, New Mexico 87545

Stephanie K

DATE: June 1, 1993

IN REPLY REFER TO: 93-465

MAIL STOP: A120

TELEPHONE: (505) 667-9390

**DRAFT**

Mr. Ron Curry, Deputy Secretary  
N.M. Environment Department  
P.O. Box 26110  
Santa Fe, N.M. 87502

**SUBJECT: TA-2 OMEGA WEST REACTOR**

Dear Mr. Curry:

Under the DOE/State Agreement in Principle, NMED staff have participated in regular meetings of the Omega West Reactor Recovery Team and have provided valuable input in addressing environmental concerns at the site. In particular, the NMED staff requested and DOE/LANL concurred in drilling additional monitoring wells in the shallow alluvium at TA-2 as an early warning system for detecting any future leaks. In addition, NMED staff requested that the tritiated water from the reactor cooling loop be removed as soon as possible and all parties agreed that this water should be pumped from TA-2 through the radioactive liquid waste line to a storage tank at the TA-50 Radioactive Liquid Waste Treatment Plant.

In reference to your letter of March 10, 1993, concerning the tritiated water being stored at TA-50, I would like to confirm that the Omega West Reactor Recovery Team has carefully evaluated all reasonable options for disposal of this water and would prefer to treat the residual radioactive materials at the TA-50 Plant and discharge the tritiated effluent to Mortandad Canyon. This option was found to be the most acceptable method based upon health, safety and environmental considerations. The following considerations are the primary factors in this determination:

1. Evaporation at the TA-53 Radioactive Wastewater Lagoon would involve trucking of tritiated water which would result in increased exposure to workers and to the public and increased risk of a spill.
2. Evaporation at the TA-53 Radioactive Wastewater Lagoon would result in greater exposure to the public from air releases than discharge to Mortandad Canyon. However, either option would result in extremely minimal exposures.
3. Although the TA-50 Radioactive Liquid Waste Treatment Plant does not treat tritiated water, the plant would treat the residual radioactive materials which were picked up during pumping through the radioactive liquid waste line and during storage in the tank at TA-50.
4. Approximately one-half of the tritium discharged to Mortandad Canyon is naturally evaporated. The total cumulative release of tritium (1963-1991) to Mortandad Canyon decayed through 1991 is 430.3 Curies. The total release due to the Omega West Reactor cooling water discharge to Mortandad Canyon would be 1.3 Curies. All surface flow from Mortandad Canyon has been retained on DOE property since the TA-50 Radioactive Liquid Waste Treatment Plant was constructed in 1962 due to the limited drainage area of the canyon and the construction of sediment basins in the canyon bottom.

Monahan, - Peter

**DRAFT**



3108

T2

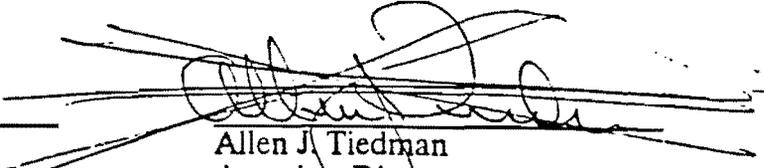
**DRAFT**

5. The Laboratory ~~is~~ clean-up and closure of the TA-53 sanitary and Radioactive Wastewater Lagoons which are listed as RCRA Mixed Waste Units. The Laboratory is under directives not to generate additional mixed waste and should not add tritiated water from the Omega West Reactor to the Radioactive Waste Lagoon. In addition, residual radioactive materials originating from the radioactive liquid waste line from TA-2 and the storage tank at TA-50 should not be introduced to the TA-53 Lagoons which have not previously received such waste streams.

I hope that this information will be helpful in your review of the Omega West Reactor Recovery Team's findings concerning the tritiated water from TA-2. I suggest that a working level meeting of NMED, DOE and LANL staff be scheduled in early June in order to review the Recovery Team's findings and to determine if a resolution of this issue can be reached. Please advise if such a meeting is agreeable and what date would be acceptable to your staff.

Sincerely,

\_\_\_\_\_  
Jerry L. Bellows  
Area Manager  
DOE, Los Alamos Area Office

  
\_\_\_\_\_  
Allen J. Tiedman  
Associate Director  
for Operations  
Los Alamos National Laboratory

AJT:JLB:SR/em

**DRAFT**

Cy: Joe Vozella, DOE, LAAO, MS A316  
Tom Gunderson, EM-DO, MS J591  
Ken Hargis, (EM-8:93-920-1, rev-1), EM-8, MS K490  
Steven Rae, EM-8, MS K490  
Alan Stoker, EM-8, MS K490  
Jack Elvinger,, EM-8, MS K490  
Mike Alexander, EM-8, MS K490  
Anthony Drypolcher, EM-7, MS E517  
Steve Hanson, EM-7, MS E517  
Alex Gancarz, INC-DO, MS J515  
Gene Peterson, INC-15, MS J514  
Bob Charles, INC-9, MS J514  
Gail McFarlane, INC-9, MS J514  
Howard Lindberg, HS-3, MS K489  
Gerald Schlapper, HS-12, MS K483  
Bruce Swanton, NMED, Santa Fe, New Mexico  
Peter Monahan, NMED, Santa Fe, New Mexico