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CERTIFIED MAIL-RETURN RECEIPT REQUESTED

September 29, 1993

Mr. Jerry L. Bellows
Acting Area Manager
Department of Energy
Los Alamos Area Office
Los Alamos, New Mexico 87544

SUBJECT: TA-2 OMEGA WEST REACTOR

Dear Mr. Bellows:

I am in receipt of your letter of August 3, 1993, regarding the status of the TA-2 Omega West Reactor (OWR) cooling water. I thank DOE/LANL for allowing NMED/AIP staff to participate in regular meetings of the OWR Recovery team. I am glad to see that DOE/LANL concurs with NMED that additional monitoring wells should be drilled in the shallow alluvium at TA-2 as an early warning system to detect any future releases.

In reference to the storage of the OWR primary cooling water at TA-50, I am not fully convinced with the findings that a discharge to Mortandad Canyon is the most acceptable method for treatment and disposal of the water. The following are my comments regarding your determinations.

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.*

Comment: To my understanding LANL already transports waste via trucking throughout the facility, and precautionary measures are taken to avoid risks to the worker and public safety. Therefore the transport of the tritiated water should not increase worker and public exposure.

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.*

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Mr. Bellows
September 29, 1993
Page 2

Comment: There would be an greater release to the environment as a whole from the proposed discharge to Mortandad Canyon than from the discharge to the TA-53 lagoons. Only if just the air borne releases are evaluated would there be less impact from LANL's proposed discharge to Mortandad Canyon.

The release of tritium from TA-53 is only through the air borne release due to evaporation, and the addition of TA-50's tritiated waste would add only minimal increase to the overall airborne release for the entire LANL facility. The rest of the tritium not evaporated would remain in the lagoon system to decay naturally.

In contrast, LANL's proposal to discharge the tritiated water to Mortandad Canyon would result in both air borne and water borne contamination. Both types would have a greater negative environmental impact overall than the TA-53 air borne releases. Therefore, the environmental impact from the disposal of the tritiated water at the TA-53 lagoon system would be less than the impact from the release at Mortandad Canyon.

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.*

Comment NMED staff had concerns regarding contamination of the storage tank prior to receiving the tritiated water. LANL indicated to NMED staff that the tank was clean. Therefore, I believe it would be sufficient to treat the water at the TA-50 treatment plant and subsequently evaporate it at TA-53.

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.*

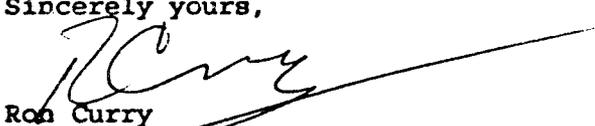
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Mr. Bellows
September 29, 1993
Page 3

Comment The draft letter stated that 50% of the tritium in Mortandad Canyon is lost due to evaporation (and evapotranspiration). This amount makes a number of assumptions that are not quantitatively based. Most importantly, neither the true amount of tritium lost to infiltration into the tuff nor the fate of the water is known. In addition, tritium movement in the vadose zone in the vapor phase is an important aspect that to my knowledge has not been adequately addressed. LANL also cannot document that the surface flow has not left DOE property in Mortandad Canyon since 1962 or that it would not leave the site in the near or distant future. San Ildefonso property begins approximately 2-3 miles from the discharge pipe at TA-50. Wildlife (especially elk and deer) commonly use and may reside year-round in Mortandad Canyon. These animals are likely accessible to hunting on San Ildefonso Pueblo property.

In summary, even though NMED does not have the authority to regulate reactor produced isotopes I believe that, New Mexico's environmental interests would be better served if the water were treated at TA-50 treatment plant and evaporated at the TA-53 lagoons, instead of discharging it to the TA-50 treatment plant and thence to Mortandad Canyon.

Sincerely yours,


Ron Curry
Deputy Secretary
New Mexico Environment Department

cc: Kathleen M. Sisneros, Director, WWMD
A. Tiedman, ADO, LANL, MS-A120