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MEMORANDUM FOR: Robert E. Browning, Director  
Division of High-Level Waste Management

FROM: Ronald L. Ballard, Chief  
Geosciences and Systems Performance Branch  
Division of High-Level Waste Management

SUBJECT: NEVADA REQUEST FOR RAW DATA FROM EARTHQUAKE  
STRONG-MOTION RECORDING STATIONS

You requested staff views regarding the contents of a letter dated September 9, 1988, from Malachy R. Murphy, Special Deputy Attorney General for the State of Nevada, to Carl P. Gertz, Project Manager for the DOE Waste Management Project Office (copy attached). In that letter Mr. Murphy questioned the legality of WMPO's position that classified ground motion data from the NTS Weapons Test Program could not be made available to the State of Nevada because of security considerations. Mr. Murphy cites the NWPAs as the basis for a legitimate "need to know" and that actions should be taken immediately by DOE to declassify and make available to the State the strong motion data.

It is the opinion of the staff that these data are not essential and may not be utilized by the NRC in the licensing process. Interpretations of the data are published in unclassified open literature and appear to present a reasonably conservative view of the strong ground motion that can be expected at the Yucca Mountain site. For example, in a report by R. G. Easterling and I. J. Hill ("Additional Underground Test Data Required for Yucca Mountain Repository Characterization," SAND87-2073, April 1988) the "worst case" acceleration presented for a hypothetical underground nuclear explosion of 700 kilotons at the closest practical point to the proposed repository for nuclear testing is 0.113g for a station on Yucca Mountain identified as 25T. The authors state that, "...there is only a three-in-a-million chance that the peak acceleration at station 25T, in response to a design basis underground explosion, would exceed 0.5g." This view is supported by other studies of strong ground motion in the region, also published in the open literature. In addition, there is also available ground motion data from naturally occurring events that permit investigation of the transmission and absorption of seismic energy by the bedrock in the Yucca Mountain vicinity, which in turn permit the making of reasonable estimates of the strong ground motion at the site. Studies made thus far of the seismic hazard at the Yucca Mountain site have yielded estimates of the design basis acceleration ranging from 0.4g to 0.7g, based on the occurrence of natural events. The staff believes that the ground motion resulting from natural earthquakes will bound any motions derived from underground tests. Unless the DOE would decide to use a much lower design basis acceleration for the Yucca Mountain site than is currently proposed, the

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staff of the Geosciences and Systems Performance Branch believe that it will not be necessary to analyze the classified Sandia raw strong-motion data in order to be reasonably assured that the ground motion at Yucca Mountain from underground nuclear explosions can be adequately characterized.

*RS*  
Ronald L. Ballard, Chief  
Geosciences and Systems Performance Branch  
Division of High-Level Waste Management

Attachment:  
As stated

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*Joan*

**Murphy & Davenport**  
ATTORNEYS AT LAW

James H. Davenport \*  
Malachy R. Murphy  
\* Also Admitted in Nevada

*T. Robert  
for Ballard*

Evergreen Plaza Building  
711 Capitol Way, Suite 600  
Olympia, Washington 98501  
(206) 352-4000

Telecopier (206) 352-8468  
Modem (206) 352-4719

September 9, 1988

Mr. Carl P. Gertz, Project Manager  
Waste Management Project Office  
U.S. Department of Energy  
Nevada Operations Office  
P.O. Box 98518  
Las Vegas, Nevada 89193-8518

Re: Nevada Request For Raw Data From Earthquake Strong-  
Motion Recording Stations; Your Letter to Robert  
Loux of August 8, 1988

Dear Mr. Gertz:

This is in reference to your letter to Bob Loux of August 8, 1988, in which you respond to his request for raw data from the earthquake strong-motion recording stations maintained by Sandia National Laboratories. Your letter states that because data from these stations is "an integral part of the underground weapons testing program at the Nevada Test Site, this data is considered 'sensitive' and 'classified' and is available only on a 'need to know' basis."

It seems clear to me that the analysis contained in your letter, and in the three references attached to it, is incomplete. The data requested is an integral part not only of the underground weapons testing program, but of the repository siting program as well, and should be recognized as such by the Department. It is unacceptable to withhold essential data which will unquestionably be used in the NRC licensing process by a blanket security classification.

Section 112(a) of the Nuclear Waste Policy Act clearly lists, among those factors which qualify or disqualify any site from development as a repository, "atomic energy defense activities". Section 117(a) of the NWPA requires the Secretary of Energy to provide to the state "timely and complete information" regarding the repository siting and development program. Furthermore, 10 CFR §960.5-2-4 of the Department's General Guidelines for the Recommendation of Sites for the Nuclear Waste Repository: Final Siting Guidelines clearly renders a site disqualified "if atomic energy defense activities in proximity to the site are expected to conflict

irreconcilably with repository siting, construction, operation, closure or decommissioning."

It seems to me almost inarguable that the earthquake strong-motion raw data is necessary to determine whether or not the Yucca Mountain site complies with the requirements in §112(a) of the NWPA, and the Department's own siting guidelines, and will furthermore undoubtedly be necessary for a complete review of the Department's license application to the Nuclear Regulatory Commission.

Your letter states that because of the fact that the data was considered either "sensitive" or "classified" it is available only on a "need to know" basis. That need to know is established by the NWPA and the Department's guidelines themselves. It seems to me beyond cavil that site suitability, and the State's recognized essential independent oversight role, more than adequately establish such a need to know.

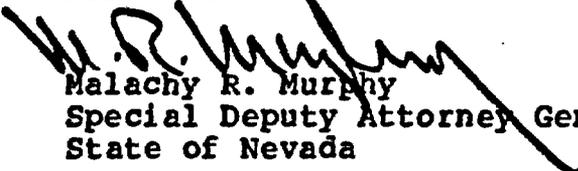
In your letter of August 8, 1988, you refer to a letter of July 26, 1985, which suggests that the raw data could become available if the yields of the recorded events could be declassified, or if the yields are not determinable from the given data. You go on to say, without explanation, that "[n]either of these solutions are practicable or likely". Without any further explanation of that statement it is impossible for the State to accept your position.

In summary, it seems to me that the requirements of the repository siting program, particularly the cited sections of the NWPA and the Department's siting guidelines, establish any necessary need to know for the State to receive the requested information. Alternatively, steps should immediately be commenced to declassify the data so that the State and its appropriate contractors might have this information on a timely basis, and thus be able to carryout its essential oversight responsibilities. I am sure that Bob Loux's office would be happy to work with you in achieving a speedy declassification, in order to enable the State to receive it under the Department's current policies.

With best personal regards.

Yours very truly,

MURPHY & DAVENPORT

  
Malachy R. Murphy  
Special Deputy Attorney General  
State of Nevada

MRM\*jfe  
cc: Bob Loux  
✓ Robert Browning

Mr. Carl P. Gertz  
September 8, 1988  
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