

# Attorney General of New Mexico

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Mary Kruger  
Office of Radiation and Indoor Air  
U.S. Environmental Protection Agency  
401 M Street, S.W.  
Washington, D.C. 20460

Dear Mary:

I have attempted through (1) a detailed letter, dated June 3, 1997, with specific questions addressed to Larry Weinstock and (2) a discussion with EEG to find out EPA's bases for the parameter decisions made by EPA in its letters dated April 17 and 25, 1997. The only response to my letter was a short note dated June 17, 1997 from Frank Marcinowski, which failed to address my questions. Thus, I am still awaiting a response to the June 3, 1997, letter. The meeting with EEG raised some new questions, based on EEG's account of its exchanges with Tom Peake and Chuck Byrum of EPA on June 17, 1997, which EEG reported to me. Therefore I am going to make a further effort by this letter to find out what is going on.

Initially, I have a procedural request. When new items are posted to the docket of the compliance rulemaking, we can learn of their existence and get a copy. But it is clear that the important information is not being sent to the docket of this ostensibly public rulemaking. Rather, important scientific information—if made public at all—is being placed in files in the Sandia WIPP Records Center, which we (the public, including the State of New Mexico) can have access to only by going to Albuquerque or by following a complex process of requesting copies of specific documents or files. The trouble is, we first must know that a new document or file exists and has been put into the Records Center before we can ask for it—and EPA and DOE do not tell us. This system effectively blocks the public from commenting on the scientific data that EPA is using in making its decisions.

Therefore, I request that (1) EPA place in the docket a list of the documents or files that have been added to the Records Center since the CCA was first filed in October 1996 (on the assumption that the original CCA directs us to any then-existing files of relevance) and that (2) EPA promptly make a memo to the public docket when any new

970713



Mary Kruger  
14 July 1997  
Page -2-

item is added to the Records Center files, so that interested members of the public can at least ask for the item.

In addition, I understand that some of the data that EPA is relying upon (such as the data concerning the critical question of radionuclide solubility) is being developed in collaboration by scientists consulting for EPA and for DOE. EEG advises that requests for such data are met by the statement that the data are not available to the public. To withhold such data conflicts with §17 of the WIPP Land Withdrawal Act, which calls for free and timely access by the State, EEG, and the NAS to data and preliminary reports concerning health, safety, and environmental issues. I request that the data developed by DOE and EPA be made public and placed in the docket.

I also understand that EPA proposes to have PA computer exercises run which do not include any credit for the asserted effectiveness of passive institutional controls (PICs). Would you please confirm whether this is accurate? Was there any study or analysis which led EPA to request such runs without PIC credit? If so, please make it available in the public docket.

Concerning the parameter values that EPA has adopted, first, would you please explain what method was used to select the 58 parameters discussed in EPA's letter dated March 19, 1997? Was some sort of sensitivity analysis performed? If so, please describe how this was done and place the study in the docket. If it was some other kind of analysis, please explain its nature and make it public.

Next, concerning the specific parameter values EPA has selected, and the information EPA has provided about them to EEG, I have several questions. The following discussion is arranged according to the CCA section numbers to which the parameters principally relate:

6.4.3.2: Relevant parameters here are 0214, EXP\_AREA/PRMX\_LOG, and 0259, PAN\_SEAL/PRMX\_LOG. EPA (Tom Peake and Chuck Byrum) in a June 17, 1997 meeting with EEG said that these parameters are nonsensitive. How did EPA so determine? Please place in the docket the sensitivity analysis that EPA used. I see that EPA said in its March 19, 1997 letter that, should parameter values be changed, DOE would "have to demonstrate why the combined effect of all the changes is not significant enough to require new performance assessment computer runs. An individual impact analysis of each change that does not take into account the synergistic and holistic effects of all the changes will not be sufficient" (at 3-4). What sensitivity analyses were done, and did they meet the test stated in EPA's March 19 letter?

6.4.3.3: Relevant microbial gas generation parameters are 0656, WAS\_AREA/GRATMICH, and 0657, WAS\_AREA/GRATMICI, have been found no longer in question. How did EPA so determine?

Mary Kruger  
14 July 1997  
Page -3-

Parameters concerning bulk density of iron-based containers , average density of iron-based waste, and average density of cellulose, parameters 1992, WAS\_AREA/DIRNCCHW, 1993, WAS\_AREA/DIRNCRHW, 2040, WAS\_AREA/DIRONCHW, 2041, WAS\_AREA/DCELLCHW, and 2274, WAS\_AREA/DCELLRHW, have been found not in question. EEG tells us that new data were provided to EPA. Would you please advise in what WPO file or files the new data are located and which parameters the data relate to? If the new data are not yet public, please make them public.

As to parameter 2907, STEEL/CORRMCO2, EEG reports that Chuck Byrum said that DOE provided some further documentation that satisfied EPA. Where is that documentation available? Please make it public. Also, Chuck said that to change the value of this parameter from 0 to "maximum" made only a 7% difference in releases. Apparently, some sort of sensitivity analysis was done. Please make available that analysis. It is not clear what "maximum" would be appropriate here.

6.4.3.5: Several parameters relate to the dissolved actinide source term:

3402, SOLMOD3/SOLCIM  
3403, SOLMOD4/SOLCIM  
3404, SOLMOD5/SOLCIM  
3405, SOLMOD6/SOLCIM  
3406, SOLMOD3/SOLSIM  
3407, SOLMOD4/SOLSIM  
3408, SOLMOD5/SOLSIM  
3409, SOLMOD6/SOLSIM

As to 3405 and 3409, EPA (Mary Kruger) said in a June 6, 1997 memo that the CCA value are "representative" based on additional data contained in WPO#44625 and WPO#45115. We will review those data. EPA previously directed DOE to use a value far different from the CCA value for 3405; what made EPA change its mind?

Further, EEG reports that other solubility values established by EPA are based on work done in collaboration by Edmund Eary, a consultant to EPA, and Van Bynum, a consultant to Sandia. However, none of the data supporting EPA's decisions has been made available for public comment. Would you please make such data available?

6.4.3.6: Concerning the colloidal actinide source term, EPA has accepted DOE values for parameters 3311, AM/PROPMIC, and 3317, PU/PROPMIC, two microbial proportionality constants which define the colloidal actinide source term. Please explain the reasoning EPA has followed, and make available any pertinent data that is not yet public.

Mary Kruger  
14 July 1997  
Page -4-

EPA told EEG in the June 17, 1997, meeting that two colloidal source term parameters, 3429, PHUMOX3/PHUMCIM, and PHUMOX3/PHUMSIM, humic proportionality constants, are nonsensitive. What studies and analyses underlie these conclusions? Please make them public.

6.4.5.2: EPA has apparently determined that eight parameters with respect to the Salado anhydrite beds are nonsensitive:

0528, S\_ANH\_AB/POROSITY  
0567, S\_MB\_138/POROSITY  
0586, S\_MB\_139/PI\_DELTA  
0588, S\_MB\_139/POROSITY  
2158, S\_ANH\_AB/DPHIMAX  
2177, S\_MB\_139/DPHIMAX  
2178, S\_MB\_139/KMAXLOG  
2180, S\_MB\_139/PF\_DELTA

As I have pointed out, there is a basic question whether the "porosity" model of anhydrite bed fracturing is appropriate or, on the other hand, understates fluid migration distances (see June 3, 1997 letter, Lovejoy to Weinstock, at 5). EPA's determination that the parameters are nonsensitive implies that the anhydrite fracture model itself is accepted. In this situation, please state what sensitivity analyses were conducted to determine that the parameters listed above are all nonsensitive. Please make such analyses available. What study, if any, was done of the anhydrite fracture model to determine that the model itself is appropriate? Please make any such studies available.

6.4.5.3: Concerning parameter 0198, DRZ\_1/PRMX\_LOG, EPA reportedly told EEG that the values specified by EPA in its April 17, 1997 letter are supported by the data records package. Appendix PAR cites WPO#32905 as the relevant file for parameter 0198. Are the data supporting EPA's value in that file? If not, where are they? Please make them public.

6.4.6.2.1: Values for five  $K_d$  parameters are specified in EPA's letter dated April 25, 1997:

3475, U+6/MKD\_U  
3479, U+4/MKD\_U  
3480, PU+3/MKD\_PU  
3481, PU+4/MKD\_PU  
3482, AM+3/MKD\_AM

Mary Kruger  
14 July 1997  
Page -5-

EPA has specified maximum and minimum values as in the CCA, but log uniform rather than uniform distributions. EEG has presented several problems with the DOE  $K_d$  values, as pointed out in my letter dated June 3, 1997. Further, a meeting is scheduled for July 30, 1997, at which issues raised by EEG and others concerning  $K_d$  values will be aired. Against this background, please explain how EPA came to its parameter decisions concerning these  $K_d$ 's. Please make public the documents supporting EPA's decisions. Does EPA intend to participate in the July 30, 1997 meeting and to consider its results and the information made available there?

6.4.7.1: This section concerns releases during drilling. EPA has directed DOE to use the range of values for parameter 0027, BOREHOLE/DOMEGA, shown in Appendix CUTTINGS, rather than a single value. What sensitivity study, or other study, did EPA do that led to this requirement? Please make it public.

Concerning parameter 0651, WAS\_AREA/ABSROUGH, and parameter 0653, WAS\_AREA/COMP\_RCK, EPA told EEG that these parameters are nonsensitive. How was that conclusion reached? What sensitivity study was conducted? Please place it in the docket.

EPA (Mary Kruger) stated in its June 6, 1997 memo that the expert judgment process provided a model for BLOWOUT/PARTDIA, the waste particle size for the spallings model. In fact, the expert report (final version dated June 3, 1997) does not contain such a model, and how EPA expects DOE to incorporate the report results into the PA process is unexplained. The report relates that the target of inquiry is a probability distribution of the characteristics of a frequency distribution (p. 15). But the report does not supply what is sought. It simply states that the corrosion and biodegradation rates (including their probabilities) shall be supplied by PA, effectively omits to consider the period 0-700 years, fails to explain how the processes of cementation and encapsulation should be modeled, does not explain how the effects of intrusion (e.g., erosion, fragmentation) on the degraded and cemented or encapsulated waste should be modeled, declines to deal with spatial variability in initial and degraded particle size distributions, and fails to address uncertainty in initial particle sizes, degradation rates, cementation, encapsulation, and spatial variation. The current spallings model calls for a single particle size value for each iteration, and it does not seem that the panel report has generated a value usable in such a model. In other words, the panel's report is not responsive to the needs of the PA process. Why, then, has EPA decided to employ some part of the report as valid parameter values?

The June 6, 1997 memo also states that the CCA value for parameter 2254, BOREHOLE/TAUFAIL, may be used for the lower bound of the distribution, citing "information provided to EPA subsequent to the April 25, 1997 letter." What information was provided? Where is it on file so that the public may review it? Please make the information public. Has DOE calculated the TAUFAIL distribution as shown

Mary Kruger  
14 July 1997  
Page -6-

in the April 25 letter (Enc. 2, note 1), and if so where are such calculations available for public review?

Concerning parameter 3256, BLOWOUT/FGE, EPA said on June 17, 1997, in discussions with EEG that this parameter is nonsensitive. What studies were run to determine that it is not sensitive? Please make the studies public.

EPA's June 6, 1997 memo also states that parameter 3259, BLOWOUT/APORO, is not used. Please describe the models for releases during drilling that describe such releases without using parameter 3259.

6.4.7.1.1 Concerning direct brine release parameters, EPA reportedly stated to EEG that the value for parameter 3245, BLOWOUT/CEMENT, is taken from the Engineered Barrier Cost-Benefit Study peer review report. It is not apparent where the value appears in that report nor on what data it is based. Please explain and identify the data.

EPA also stated to EEG that parameters 3456, BLOWOUT/RE\_CAST, and 3473, BLOWOUT/THICK\_CAS, are nonsensitive. What sensitivity studies were done to reach those conclusions? Please make these studies public.

Three parameters relating to direct brine releases, 3470, BLOWOUT/GASMIN, 3471, BLOWOUT/MAXFLOW, and 3472, BLOWOUT/MINFLOW, are established in EPA's April 25, 1997 letter. We have no report concerning the sensitivity of these parameters. Please state what sensitivity studies have been done of these parameters, and make them public. Please also state the basis for EPA's acceptance of the DOE values for these parameters.

6.4.7.2: As to long-term releases, I am told that EPA stated to EEG that parameters 3134, BH\_OPEN/PRMX\_LOG, and 3147, CONC\_PLG/POROSITY, are nonsensitive. What sensitivity studies underlie these conclusions? Please make them public.

As to parameter 3184, BH\_SAND/PRMX\_LOG, EEG reportedly was told that DOE has supplied new information about this value. Please state what file such new material is located in. If it is not public, please make it so.

EPA has specified a range of values for parameter 3185, CONC\_PLG/PRMX\_LOG, in its letter dated April 17, 1997. What is the source of these values? What file is the supporting data available in?

6.4.8: Concerning the Castile brine reservoir, EPA has stated that certain parameters are nonsensitive: 0064, CASTILER/POROSITY, and 0066,

Mary Kruger  
14 July 1997  
Page -7-

CASTILER/PRESSURE. What are the sensitivity studies supporting those conclusions? Please make them available for public review.

EPA stated to EEG in the June 17, 1997, meeting that certain other parameters relating to the Castile brine reservoir are no longer used and that a model proposed by EEG is being used. Apparently, this affects parameters 0061, CASTILER/COMP\_RCK, 2918, CASTILER/VOLUME, 3194, CASTILER/GRIDFLOW, and 3493, GLOBAL/PBRINE. It is unclear exactly what model and what parameter values are to be used by EPA for the Castile brine reservoir. Would you please explain what model and parameter values are in use and cite the data underlying the model and values?

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Thank you for reviewing and responding to these inquiries. As stated above, I am also awaiting a response to my letter dated June 3, 1997, to Larry Weinstock. Please understand that responses to these questions are essential so that this office may conduct public review of the WIPP compliance determination process.

Very truly yours,



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