



**Department of Energy**

Carlsbad Field Office  
P. O. Box 3090  
Carlsbad, New Mexico 88221  
November 1, 2004

Ms. Elizabeth Cotsworth, Director  
Office of Radiation and Indoor Air  
U. S. Environmental Protection Agency  
Ariel Rios Building, 6601J  
1200 Pennsylvania Ave., N.W.  
Washington, DC 20460

**Subject:** Initial Response to Environmental Protection Agency (EPA) September 2, 2004, Letter on Compliance Recertification Application

Dear Ms. Cotsworth:

In response to the EPA's letter of September 2, 2004, the U.S. Department of Energy (DOE) is providing information that answers some of the questions included in the enclosure to that letter. DOE determined, after review of the EPA September 2, 2004, letter, that the responses to several of the items, including those that address the technical areas of concern, required additional analysis or significant effort.

DOE is investigating the technical areas of concern addressed in EPA's letter and will provide responses to these issues and the remaining questions in the November or December timeframe. The following is a summary of comments received, DOE responses in this submittal and responses still pending.

| Comments Received Sept 2, 2004  | Included in this Submittal | Pending |
|---|----------------------------|---------|
| G-10 Ground water basin modeling and ground water chemistry                 |                            | ✓       |
| G-11 Inclusion of omitted areas in mining transmissivity calculation        |                            | ✓       |
| G-12 Potential effects of heterogenous waste loading on chemical conditions |                            | ✓       |
| G-13 Ligands potentially produced as aqueous metabolites                    |                            | ✓       |
| G-14 Methanogenesis   |                            | ✓       |
| C-14-1 Figure 2-37 revision   |                            | ✓       |
| C-14-2 Background conditions since CCA                                      | ✓                          |         |
| C-14-3 Post-CCA seismic events  | ✓                          |         |
| C-15-1 Compacted waste in or planned for inventory                          | ✓                          |         |
| C-23-11 95 percent confidence interval                                      |                            | ✓       |
| C-23-12 Documentation for chemical benefit of MgO emplacement               |                            | ✓       |

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|--|---|---|
| C-23-13 Organic ligand complexation on (V) and (VI) oxidation state actinides      |   | ✓ |
| C-23-14 Identification of relevant non-WIPP actinide solubility data               |   | ✓ |
| C-23-15 Organic ligand sensitivity   |   | ✓ |
| C-23-16 Actinide solubility uncertainty  |   | ✓ |
| C-23-17 Metallorganic ligand competition for actinides and solution ionic strength |   | ✓ |
| C-23-18 Sensitivity of top ten releases  |   | ✓ |
| C-23-19 Identification and justification for changes to all parameters             |   | ✓ |
| C-23-20 Exclusion of parameter correlations  | ✓ |   |
| C-24-5 Inclusion of information on complexing agents, nitrates and phosphates      |   | ✓ |
| C-24-6 Importance and nature of waste stream profile inconsistencies               | ✓ |   |
| C-24-7 Impact of waste loading within TDOP containers                              |   | ✓ |
| C-31-1 ORIGEN 2.2 decay model  | ✓ |   |
| C-32-1 Nuclear criticality possibility with non-random waste loading               | ✓ |   |
| C-42-5 Status of all monitoring programs   | ✓ |   |
| C-42-6 Location where Appendix DATA Attachment C tables are analyzed               | ✓ |   |
| C-53-1 Reference to support NUTS code tracer exercise                              |   | ✓ |
| R-23-1 Reference   | ✓ |   |
| R-23-2 Reference   | ✓ |   |
| R-23-3 Reference   | ✓ |   |
| R-23-4 (Section 6.4.3.5) Reference   | ✓ |   |
| R-7-1 (Section 7.3.2) Reference  | ✓ |   |
| R-7-2 (Section 7.3.2) Reference  | ✓ |   |
| R-7-3 (Section 7.3.2) Reference  | ✓ |   |
| R-7-4 (Section 7.3.2) Reference  | ✓ |   |
| R-24-2 (Section 4.1.3.3, Appendix DATA Annex F) Reference                          | ✓ |   |
| R-MON-1 (Appendix MON) Reference   | ✓ |   |

This submittal includes two enclosures. Enclosure 1 is a hard copy of the responses. Enclosure 2 (on compact disc) provides the references for documents identified in Enclosure 1 and other references requested. An electronic copy of Enclosure 1 is also included in Enclosure 2.

If you have any questions, please contact Russ Patterson of my staff at 505-234-7457.

Sincerely,



R. Paul Detwiler  
Acting Manager

Enclosure(s)

cc: w/enclosures

|                                    |     |
|------------------------------------|-----|
| B. Forinash, EPA                   | *ED |
| C. Byrum, EPA                      | *ED |
| T. Peake, EPA                      | *ED |
| R. Lee, EPA                        | *ED |
| J. Schramke, Contract<br>CBFO M&RC | *ED |

cc: w/o enclosures

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\*ED denotes electronic distribution