

October 28, 2008

Attn: Document Control Desk
Myron Fliegel, Senior Project Manager
Uranium Recovery Licensing Branch
Division of Waste Management
and Environmental Protection,
Office of Federal and State Materials
and Environmental Management Programs,
US Nuclear Regulatory Commission
Two White Flint North, MS T8F5
11545 Rockville Pike
Rockville, MD 20852

RE: ADDITIONAL INFORMATION REQUESTED FOR THE MOORE
RANCH IN SITU URANIUM RECOVERY PROJECT LICENSE
APPLICATION (TAC JU011), SECOND SET OF RESPONSES

Dear Mr. Fliegel:

By letter dated May 14, 2008, the U.S. Nuclear Regulatory Commission (NRC) staff provided a request for additional information (RAI) to complete review of the license application for the Moore Ranch In Situ Uranium Recovery Project. In a letter dated June 13, 2008, Uranium One informed the NRC that responses to those RAI's would be submitted in two parts. The first response would contain information for RAI's related to effects of coal bed methane, radiological protection and environmental monitoring, geologic descriptions, ISR operations and reclamation, effluent control, and other requests, and the second response would address the RAI's regarding unconfined conditions in the production zone, restoration pore volumes, and other concerns regarding aquifer conditions.

By this letter, Uranium One is submitting the second response to RAI's. The response includes:

If you should have any questions on these responses, please contact me by phone at (307) 234-8235 ext. 330 or by email at ken.milmine@uranium1.com.

Sincerely,



Ken Milmine

Manager of Environmental and Regulatory Affairs

Enclosures: Responses to NRC Request For Additional Information
Technical Report Revision Index
Technical Report Revised Sections 2.1, 2.6, 2.7, 2.9, 3, 4, 5, 6, 7,
Appendix B, and Appendix D
Electronic Modeling simulation Files

- A detailed written response to each RAI. If revisions to the Technical Report were made as a result of these responses, then a reference to the applicable section where the revisions were made is provided with each response
- 5 copies of revised sections of the Technical Report. The revised sections included in this first response include Sections 2.1, 2.6, 2.7, 2.9, 3, 4, 5, 6, 7, Appendix B, and Appendix D.
- A revision index providing instructions on replacement of revised portions of the application into the original application.
- Revised Table of Contents, Table of Figures, Table of Tables, and List of Addendums.

Significant RAIs addressed in these responses include, but are not limited to, updated geological information; updated hydrological information including groundwater modeling addressing operations and restoration in unconfined aquifer conditions; restoration criteria; additional information on facility instrumentation; and additional information on accident prevention, mitigation and emergency response. In addition, baseline groundwater and radiological environmental monitoring data have been supplemented with an additional two quarters of monitoring data.

Furthermore, several of the additional questions from NRC reviewers on RAI responses submitted on June 12, as discussed in a public meeting with NRC on September 25, 2008, have also been addressed in these responses. Additional questions and information requests regarding the issue of coal bed methane impacts on shallow aquifers discussed at that meeting are not addressed in these responses since information necessary to respond to those requests is still being collected. A significant amount of information on impacts of coal bed methane discharges on shallow aquifers in the area was provided in the first set of responses and subsequent revisions to Section 2.7. Uranium One understands that the NRC will send a summary of the issues discussed and the additional information requested at the September 25 meeting. Additional responses from that summary may be submitted if needed after it is received.

REVISION INDEX

Uranium One, Inc.

Second Set of Responses to NRC RAIs

Moore Ranch Uranium Project

October 2008

| VOLUME AND SECTION NUMBER | PAGE, MAP OR OTHER PERMIT ENTRY TO BE REMOVED | PAGE, MAP OR OTHER PERMIT ENTRY TO BE ADDED |
|---------------------------|--|---|
| Vol. I | Remove all TOC, TOF, TOT, and LOA (pages i through xxiv). | -Insert revised TOC, TOF, TOT, and LOA (pages i through xxvi). |
| Vol. I, Section 2.1 | Remove Page 2.1-1 and Figure 2.1-2 (revised in July 2008 responses) | Insert revised pages 2.1-1 and 2.1-2, and revised Figure 2.1-2 from October 2008 responses |
| Vol. I, Section 2.6 | Remove Section 2.6, Pages 2.6-1 through 2.6-31 | Insert revised Section 2.6, Pages 2.6-1 through 2.6-31 from September 2008 Responses. |
| Vol. I, Section 2.6 | Remove Figures 2.6-2 through 2.6-12 | Insert new Figures 2.6-2 through 2.6-24 from September 2008 responses. |
| Vol. I, Section 2.6 | Remove Table 2.6-1 | Insert new Tables 2.6-1a and 2.6-1b from September 2008 responses. |
| Vol. I, Section 2.6 | Remove Figure 2.6-13 | Insert new Figures 2.6-25a through 2.6-25b from September 2008 responses. |
| Vol. I, Section 2.7 | Remove Section 2.7, Pages 2.7-1 through 2.7-41 | Insert revised Section 2.7, Pages 2.7-1 through 2.7-56 from September 2008 responses. |
| Vol. I, Section 2.7 | Remove Tables 2.7.2-2, 2.7.3-19, 2.7.3-20a, 2.7.3-20b, and 2.7.3-21, | Insert revised Tables 2.7.2-2, 2.7.3-19, 2.7.3-20a, 2.7.3-20b, and 2.7.3-21 from September 2008 responses. |
| Vol. I, Section 2.7 | | Insert new Figures 2.7.1-2; 2.7.2-5a through 2.7.2-5h (after 2.7.2-5); 2.7.2-6a through 2.7.2-6f (after 2.7.2-6); 2.7.2-7a through 2.7.2-7k (after 2.7.2-7); 2.7.2-11a through 2.7.2-11d (after 2.7.2-11); 2.7.2-12; and 2.7.2-13 |
| Vol. I, Section 2.7 | Remove Figures 2.7.3-3, 2.7.3-4, 2.7.3-5, 2.7.3-6, 2.7.3-7, 2.7.3-8, and 2.7.3-9 | Insert revised Figures 2.7.3-3, 2.7.3-4, 2.7.3-5, 2.7.3-6, 2.7.3-7, 2.7.3-8, and 2.7.3-9 from September 2008 responses |
| Vol. II, Section 2.9 | Remove Pages 2.9-34, 2.9-41, 2.9-42, 2.9-47, 2.9-48, 2.9-56, and 2.9-62 | Insert revised Pages 2.9-34, 2.9-41, 2.9-42, 2.9-47, 2.9-48, 2.9-56, and 2.9-62 from September 2008 responses. |
| Vol. II, Section 2.9 | | Insert New Addendum 2.9-A- <i>Supplemental Analytical Monitoring Data</i> at the end of |

| VOLUME AND SECTION NUMBER | PAGE, MAP OR OTHER PERMIT ENTRY TO BE REMOVED | PAGE, MAP OR OTHER PERMIT ENTRY TO BE ADDED |
|---------------------------|--|--|
| | | Section 2.9. |
| Vol. II, Section 3.0 | Remove Pages 3-11, 3-12, 3-21, 3-32, and 3-33 (revised in July 2008 responses) | Insert revised Pages 3-11, 3-12, 3-21, and 3-29 through 3-38 from September 2008 responses. |
| Vol. II, Section 4.0 | Remove Page 4-2 5 (revised in July 2008 responses) | Insert revised page 4-2 from September 2008 responses. |
| Vol. II, Section 5.0 | Remove Section 5 (revised in July 2008 responses) | Insert revised Section 5 (page 5-1 through 5-67) from September 2008 responses. |
| Vol. II, Section 6.0 | Remove Pages 6-1 through 6-34 (revised in July 2008 responses). | Insert revised Pages 6-1 through 6-34 from September 2008 responses. |
| Vol. II, Section 7.0 | Remove Pages 7-46 through 7-66. | Insert revised pages 7-46 through 7-76 from October 2008 responses |
| Vol. III, Appendix B | | Insert new tab labeled "Appendix B1" (provided in September 2008 responses) in front of the <i>Moore Ranch Hydrologic Test Report</i> . |
| Vol. III, Appendix B | | Insert new tab labeled "Appendix B2", cover page, and the <i>Moore Ranch 5-Spot Hydrologic Test Report Volume I and Volume II</i> (provided in September 2008 responses) behind Appendix B1. |
| Vol. III, Appendix B | | Insert new tab labeled "Appendix B3", cover page, and the <i>Technical Memorandum-Evaluation of Potential Hydraulic Communication Between the Production Zone and Underlying Aquifers, Vicinity of Well 885, Moore Ranch Uranium Project, Wyoming</i> (provided in September 2008 responses) behind new Appendix B2. |
| Vol. III, Appendix B | | Insert new tab labeled "Appendix B4", cover page, and the report <i>Numerical Modeling of Groundwater Conditions Related to In Situ Recovery at the Moore Ranch Uranium Project, Wyoming</i> (provided in September 2008 responses) behind new Appendix B3. |
| Vol. III, Appendix B | | Insert new tab labeled "Appendix B5", cover page, and the report of Conoco historic hydrologic analysis (provided in September 2008 responses) behind new Appendix B4. |

| VOLUME AND SECTION NUMBER | PAGE, MAP OR OTHER PERMIT ENTRY TO BE REMOVED | PAGE, MAP OR OTHER PERMIT ENTRY TO BE ADDED |
|--------------------------------------|--|---|
| Vol. III, Appendix D | Remove pages 2 of 17 and 3 of 17 (revised in July 2008 responses). | Insert revised pages 2 of 17 and 3 of 17 provided in September 2008 responses. |