



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105-3901

CERTIFIED MAIL 7010 1060 0002 0242 5330  
RETURN RECEIPT REQUESTED

February 27, 2013

Michael McPhie  
President and Chief Executive Officer  
Curis Resources (Arizona) Inc.  
1575 W. Hunt Highway  
Florence, AZ 85132

**RE: Request for Information (RFI)  
Class III Underground Injection Control (UIC) Well Permit Application  
Curis Resources (Arizona) Inc.**

Dear Mr. McPhie:

The United States Environmental Protection Agency, Region IX (EPA) is conducting a technical review of the March 2011 Underground Injection Control (UIC) permit application from Curis Resources (Arizona), Inc. (Curis Arizona), as modified by Dan Johnson's letter dated June 1, 2012 for the Production Test Facility (PTF) and subsequent supplemental information. EPA has reviewed your December 14, 2012 response to the Request for Information letter dated November 8, 2012. In order to continue our evaluation of your application materials, we are requesting additional information and clarifications as detailed in the enclosure.

Please address all items noted in the enclosure by submitting supplemental information in hard copy and in electronic format. With a complete response to this request, we will be able to continue our technical review of your proposed PTF. Please provide your supplemental information within 45 days of the date of this letter.

Please submit the information requested in this letter to:

Attn: Nancy Rumrill  
U.S. EPA Region IX, (WTR-9)  
75 Hawthorne Street  
San Francisco, CA 94105

If you have any questions regarding this letter, please contact me at 415-972-3417 or call Nancy Rumrill of my staff at 415-972-3293.

Sincerely,

A handwritten signature in black ink, appearing to read 'Michele Dermer', with a long horizontal flourish extending to the right.

Michele Dermer  
Acting Manager, Ground Water Office

Enclosure

cc w/enc: Richard Mendolia, ADEQ (via e-mail)  
Dan Johnson, VP, General Manager, Curis Arizona (via e-mail)

**Request for Information**  
**Curis Arizona's UIC Permit Application**  
**February 27, 2013**

**Please see the December 14, 2012 Curis Arizona response for attachment references.**

- 1. Revised Operations Plan in Attachment 3:** The Operations Plan has been revised in accordance with the requested changes and additions. However, Table 1, which was included in the previous version of the Operations Plan, was omitted in this submittal. Please add Table 1 to the Operations Plan submitted in the December 14, 2012 response. Also, Table 3.1 in Exhibit 10C, Attachment 10 of the March 1, 2012 temporary APP application provides the forecasted composition of the injectate in the PTF. Please add this estimated composition to the Operations Plan. Another revision of the complete Operations Plan should be submitted. The following paragraphs also refer to Sections of the revised Operations Plan.
- 2. Section 2.2.2, Injection Monitoring and Controls:** Section K.3.1 in Attachment K of the UIC application states that total lixiviant injection through the four injection wells in the PTF will occur at a rate of approximately 240 gpm, and the total PLS recovery rate will be approximately 300 gpm. Please modify the Operations Plan to include a clarification of that statement that describes the proposed range of injection and recovery rates. It should also be acknowledged that hydraulic control may not be demonstrated by an outward flow from the Injection and Recovery Zone (IRZ) that simply exceeds the total flow into the IRZ (by a minimal amount) in a 24-hour period as stated on page 2 of the Operations Plan. Recovery wells will be withdrawing an unknown quantity of water from outside the well field, which will require that the recovery rate exceed the injection rate by a sufficient amount to ensure that hydraulic control is maintained. Hydraulic control in the PTF would be demonstrated by monitoring of the inward groundwater flow gradient in addition to the ratio of outward flow (recovery rate) to total flow into (injection rate) the IRZ according to the UIC permit conditions.
- 3. Section 3.1, Emergency Response/Contingency Plan Requirements Emergency Conditions:** "Loss of hydraulic control for more than 72 consecutive hours" is inconsistent with the 48-hour limitation presented in the modified UIC permit application, Attachment O, and the existing UIC permit under Part II.H.1(b). Please modify the Operations Plan to be consistent with the application and existing UIC permit language. This comment also applies to the amount of fluid recovered during the same "72-hour period"; the average head reading for any observation pair for a "72-hour period"; and failure of transducers in any observation pair for more than "72 hours."
- 4. Section 4.2, Quarterly Monitoring Report:** The "table showing POC monitoring well analytical results and alert levels" should include results from monitoring conducted in other monitoring wells in and surrounding the PTF well field and a narrative summary of those results. Please modify the section to include this additional reporting.

5. Please modify Figure 2 of the revised Operations Plan to show the injection tubing and packer installation in the injection well to clarify that injection will not occur down the casing as indicated in Figure 2.
  
6. **Monitor Well Locations Plan in Attachment 4 :** Curis Arizona has proposed to install a supplemental monitoring well (M61-LBF) approximately 350 east of the PTF well field, as shown in Figure 11-1 of Attachment 4. It will be screened across the bottom 200 feet of the LBFU as depicted in the proposed well design in Figure 11-2 of Attachment 4. The purpose of this well is to monitor for lixiviant migration upward through the Sidewinder fault zone and into the LBFU for protection of the Underground Source of Drinking Water (USDW) present above the 200-foot exempted portion of the LBFU at that location. EPA recommends that it be moved approximately 130 feet north of the proposed location to place it where the Sidewinder Fault intersects the base of the LBFU at the transect shown in the EW cross section 746167 N in Attachment 13 of the May 23, 2012 response to ADEQ comments on the Temporary APP Application. That is the preferred location because the LBFU thickness to the east of the PTF is shown at its maximum of 300 feet at that location, which means that the upper 100 feet of the LBFU is a USDW at that location. Please provide the recommended location change and an updated design schematic.