

<p>Section 2 – Site Characterization</p>	
<p>RAI 11 <u>Description of Deficiency</u> The information provided in TR Section 2.9.3.2 does not meet the applicable requirements of 10 CFR Part 40, using the review procedures in Section 2.7.2 and acceptance criteria in Section 2.7.3 of NUREG 1569.</p> <p><u>Basis for Request</u> NUREG-1569, Acceptance Criterion 2.7.3(5), states: “The applicant has provided an assessment of seasonal and the historical variability for potentiometric heads and hydraulic gradients in aquifers and water levels of surface-water bodies. This assessment should include water levels or water potentials measurements over at least one year and collected periodically to represent any seasonal variability.”</p> <p>The applicant indicated that water level measurement events were conducted at Brule and Basal Chadron monitoring wells on February 22, 2011, and on August 12, 2011.</p> <p>Potentiometric maps were provided for the February 22, 2011, water levels measurements. Consistent with NUREG-1569, Acceptance Criterion 2.7.3(5), staff did not find one year of seasonal water level data in the application.</p> <p><u>Request for Additional Information</u> Please provide one year of seasonal water level data for the Brule and Basal Chadron monitoring wells. For each monitoring event, please provide potentiometric maps of the potentiometric surface. Additionally, please provide time period when irrigation wells near MEA are active and their rates of groundwater extraction.</p>	
<p>Section 3 – Description of Proposed Facility</p>	
<p>RAI 15 <u>Description of Deficiency</u> The information provided in TR does not meet the applicable requirements of 10 CFR Part 40, using the review procedures in Section 3.1.2 and acceptance criteria in Section 3.1.3 of NUREG 1569.</p> <p><u>Basis for Request</u> In accordance with NUREG 1569, Section 3.1.3 Criterion (5)(f), the application did not provide an acceptable analysis of the ground water hydraulic effects of nearby agricultural wells. Specifically,</p> <p>(a) Considering the possible occurrence of regulated material releases to the overlying aquifer (e.g., from a potential surface spill or a potential well casing failure) within the MEA, the application does not provide an analysis of the possible ground water hydraulic effects that nearby agricultural wells (well locations are shown in TR Figure 2.7-6 as indicated by TR Table 2.2-11 and TR Appendix A) may have on the migration of potential MEA regulated</p>	

material releases in the overlying ground water zone toward these wells. Thus, staff cannot confirm whether the applicant’s monitoring, containment, corrective action programs for potential MEA regulated material releases into the overlying aquifer will be protective of the agricultural wells and other private wells (located between MEA operations and the agricultural wells).

(b) Staff is uncertain whether active agricultural wells (locations shown in Figure 2.7-6 as indicated by TR Table 2.2-11 and TR Appendix A) tap an unconfined or confined aquifer. Staff observes that if confining conditions exist, the application will need to demonstrate that the downward hydraulic influence of active agricultural wells (e.g., private well 732 shown in TR Figure 2.7-6) will not have an adverse effect of hydraulic containment of MEA production fluids in the Basal Chadron Formation beneath the MEA.

Request for Addition Information (a) Please provide an analysis of the hydraulic effects that nearby agricultural wells may have on the migration of potential MEA regulated material releases in the overlying ground water zone toward these wells. This analysis should further define the hydrostratigraphy within the Arikaree and Brule formations and should be centered on the protection of agricultural wells and other private wells (located between MEA operations and the agricultural wells) from potential MEA regulated material releases to the overlying aquifer. Results of this analysis should be used to demonstrate the effectiveness of the applicant’s proposed monitoring, containment, and corrective action programs for addressing possible MEA regulated material releases into the overlying groundwater zone.

(b) Please further demonstrate that the ground water hydraulic influence of nearby agricultural wells will not have an adverse effect on the hydraulic containment of MEA production fluids within the Basal Chadron Formation beneath the MEA.