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Report Number: NUREG-1910, Supplement 5

Report Title: Final Environmental Impact Statement for the Ross ISR Project in Crook County, Wyoming, Supplement to the Generic Environmental Impact Statement for *In-Situ* Leach Uranium Milling Facilities

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U.S. Nuclear Regulatory Commission
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Instructions: Please append the enclosed table of corrections to the text of NUREG-1910, Supplement 5.

On March 11, 2014, the U.S. Nuclear Regulatory Commission's (NRC) notice of availability of NUREG-1910, Supplement 5, *Final Environmental Impact Statement for the Ross ISR Project in Crook County, Wyoming, Supplement to the Generic Environmental Impact Statement for In-Situ Leach Uranium Milling Facilities* (FSEIS) was published in the Federal Register (79 FR 13683). Following publication of NUREG-1910, Supplement 5, the NRC staff was informed of and identified certain errors in the FSEIS.

In a motion filed on March 31, 2014, the Joint Intervenor for the hearing on the licensing action that is the subject of the FSEIS identified an error in Section 4.5.1.3 of the FSEIS related to the ground-water restoration concentrations of Wellfield 1 at the Crow Butte facility near Crawford, Nebraska. Section 4.5.1.3 of the FSEIS includes a discussion of historic approvals of aquifer restoration activities by the NRC. The FSEIS describes three facilities that received NRC's approval for aquifer restoration activities and the ground-water-quality parameters in those wellfields for which the NRC approved restoration. In the FSEIS's description of one of those facilities, Crow Butte Wellfield 1, the NRC states that "[t]he NRC determined that the radium-226 and uranium concentrations at 31 percent and 18 percent above post-licensing, pre-operational concentrations were protective of human health and the environment (Crow Butte Resources, 2001)." Based upon the information in the source document, the relevant portion of that statement should instead describe the concentration for uranium as 18 *times* the post-licensing, pre-operational uranium concentration. The use in error of the term "18 percent" in the FSEIS was a drafting mistake that does not affect the NRC staff's analysis of the potential impacts of the proposed action on restored ground-water quality of the ore-zone and surrounding aquifers, or the staff's conclusion that such potential impacts would be SMALL.

In reviewing the statements in the FSEIS regarding restoration of Crow Butte Wellfield 1, the NRC staff identified additional errors regarding the number of parameters sampled. These errors in the description of ground-water quality in Crow Butte Resource's Wellfield 1 at the time of restoration approval do not affect the FSEIS's characterization of NRC-approved historic restoration values or its conclusion that the potential impacts of aquifer restoration to ground-water quality of the ore-zone and surrounding aquifers would be SMALL. It remains the case that most of the ground-water-quality parameters in wellfields for which the NRC has approved restoration, as described in the FSEIS, were either returned to post-licensing, pre-operational concentrations or Class I Domestic Use standards. For the few parameters that exceeded these standards, the concentrations in the ground water did not change the class of use and did not represent a potential impact to the ground water outside the aquifer-exemption boundary.

Additionally, by letter dated April 4, 2014, the U.S. Environmental Protection Agency (EPA) requested that the NRC clarify information provided in Table 1.2 of the FSEIS regarding the role of the EPA for the Underground Injection Control Program.

To address these matters, the NRC staff has prepared this errata to the FSEIS.

ERRATA

FSEIS SECTION	Page	Correction
1.6.2 Status of Permitting With Other Federal, State, Local, and Tribal Agencies	1-10	Table 1.2 - Environmental Approvals for the Proposed Ross Project, Row 3 (Issuing Agency - U.S. Environmental Protection Agency), Column 2 (Description): <ul style="list-style-type: none"> • Insert "for Class III injection wells" after "(USDW)"
1.6.2 Status of Permitting With Other Federal, State, Local, and Tribal Agencies	1-11	Table 1.2 - Environmental Approvals for the Proposed Ross Project (<i>Continued</i>), Row 5 (Issuing Agency - U.S. Environmental Protection Agency), Column 2 (Description): <ul style="list-style-type: none"> • Change "Aquifer Exemption Permit for Class I Injection Wells" to "Aquifer exemption approval required for Class I injection wells if receiving aquifer is a USDW" • Delete entire cell with "Aquifer Reclassification for Class III Injection Wells (WDEQ, Title 35-11)"
1.6.2 Status of Permitting With Other Federal, State, Local, and Tribal Agencies	1-11	Table 1.2 - Environmental Approvals for the Proposed Ross Project (<i>Continued</i>), Row 5 (Issuing Agency - U.S. Environmental Protection Agency), Column 3 (Status): <ul style="list-style-type: none"> • Insert a cell next to "Aquifer Exemption Permit for Class I Injection Wells (40 CFR Parts 144 & 146)" with the following text: "Pending water quality data acquisition during well installations and EPA review"
4.5.1.3 Ross Project Aquifer Restoration	4-46	Second full paragraph, replace first and second sentence with the following: "Crow Butte's NRC license initially required the analysis of 35 ground-water constituents to determine pre-operational ground-water quality (Crow Butte Resources, 2000). The NRC amended Crow Butte's license in 2001 to modify the constituent list in License Condition 10.3B to duplicate the constituents contained in the Restoration Table in Crow Butte's Class III UIC permit issued by the Nebraska Department of Environmental Quality. Because of this amendment, several constituents that were originally discussed in Crow Butte's first restoration report were no longer considered restoration parameters by the NRC. The 27 constituents listed in Tables 2 and 3 in Crow

		<p>Butte Resources (2001) are those in the modified parameter list contained in that license amendment (NRC, 2001). The average concentrations of 34 constituents (the initially required 35 constituents minus temperature) at the end of restoration compared to baseline concentrations are reported by the NRC in Table 5 of NUREG/CR-6870, which discusses the geochemical issues in ground -water restoration at ISR facilities (NRC, 2007). Of the 34 constituents, 23 were returned to post-licensing, pre-operational concentrations. The average concentrations of two constituents, arsenic and iron, were returned to levels lower than Wyoming's Class I Domestic Use standards, which, for these two constituents, are identical to the EPA's Drinking Water MCLs and Standards in the UIC Permit from the Nebraska Department of Environmental Quality held by Crow Butte (Crow Butte Resources, 2001). The average concentration of one constituent, vanadium, was returned to the Wyoming Class II standard for agricultural use, which is lower than the UIC Permit Standard. Concentrations of six constituents – alkalinity, bicarbonate, calcium, potassium, magnesium, and molybdenum – for which there are no EPA MCLs or Wyoming Class I, II, or III standards, exceeded post-licensing, pre-operational concentrations by 6 – 65 percent.”</p>
<p>4.5.1.3</p> <p>Ross Project Aquifer Restoration</p>	4-46	<p>Second full paragraph, line 7, replace “18 percent” with “18 times”</p>
<p>4.5.1.3</p> <p>Ross Project Aquifer Restoration</p>	4-46	<p>Last paragraph, line 7, delete “average”</p>
<p>4.15</p> <p>References</p>	4-122	<p>Insert the following new reference (NRC, 2001) before the second-to-last reference entry on this page (NRC, 2003a):</p> <p>(US)NRC. “License Amendment 11/Crow Butte Resources In Situ Leach Facility/License No. SUA-1534.” Washington, DC: USNRC. 2001. ADAMS Accession No. ML011830343.</p>
<p>4.15</p> <p>References</p>	4-123	<p>Insert the following new reference (NRC, 2007) after the fourth reference entry on this page (NRC, 2006):</p> <p>(US)NRC. “Consideration of Geochemical Issues in Groundwater Restoration at Uranium In-Situ Leach Mining Facilities.” NUREG/CR-6870. Washington, DC: USNRC. 2007. ADAMS Accession No. ML070600405.</p>