UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of NUFUELS, INC. (Crownpoint Uranium Project In-Situ Recovery Facility)	Docket No. 40-8968-LR; NRC-2026-1882 License No. SUA-1580 July 27, 2026

STATE OF NEW MEXICO

PETITION TO INTERVENE AND

REQUEST FOR HEARING

New Mexico Department of Justice
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I. INTRODUCTION

Pursuant to 10 C.F.R. § 2.309 and the Commission's notice of opportunity to request a hearing,[1] the State of New Mexico ("the State"), by and through Attorney General Raúl Torrez, petitions for leave to intervene and requests a hearing on the application of NuFuels, Inc. ("NuFuels" or "the applicant") to renew Source Materials License SUA-1580 for the Crownpoint Uranium Project ("CUP"), a proposed in-situ recovery ("ISR") uranium facility in McKinley County, New Mexico. The State's standing is demonstrated in Section II and its contentions are set out in Section III. The petition is timely, because it was filed on or before the July 27, 2026 deadline established by the hearing notice, and confirmed by the Secretary's Order of July 9, 2026. 91 Fed. Reg. at 31,477–78; ML26190A010; *see* 10 C.F.R. § 2.309(b). The State's designation of a single representative under § 2.309(h)(1) is set out in Section II.A.

In the alternative, and without waiving any request made herein, the State provides notice that if this petition is denied in whole or in part, and a hearing proceeds otherwise, the State will participate as an interested governmental body under 10 C.F.R. § 2.315(c), and it reserves all rights attendant to that status. The State further reserves the right to file new or amended contentions based on new and materially different information—including the Nuclear Regulatory Commission ("NRC" or "Commission") staff's forthcoming National Environmental Policy Act ("NEPA") document and any supplement to the applicant's Environmental Report ("ER")—in accordance with 10 C.F.R. § 2.309(c).

A. The Proposed Action and Its Setting

License SUA-1580 would authorize ISR uranium recovery at four project areas—Church Rock Sections 8 and 17, Unit 1, and Crownpoint—through the injection of oxygen- and bicarbonate-fortified lixiviant into the Westwater Canyon Member of the Morrison Formation, with loaded resin hauled from a satellite facility at Church Rock to a central processing plant at Crownpoint, and yellowcake shipped out of state. ER §§ 2.1.3.2–2.1.3.4 at 18–26. The Westwater Canyon aquifer is the sole production zone and is the same aquifer from which the town of Crownpoint (2020 population 2,900) and surrounding communities draw their drinking water through wells located within two miles of the proposed wellfields. ER § 3.1.2 at 60; *id.* §§ 3.4.3.2.1–3.4.3.2.2 at 107–09. The project areas lie in checkerboard lands amid the communities of the Navajo Nation. ER §§ 3.1.1–3.1.2 at 59–61. The Nation's own law, and its decisions whether, when, and on what terms to grant the consents and permissions the applicant seeks, belong to the Nation alone as a sovereign; nothing in this petition asks the Commission to adjudicate them. *See* Section III, Contention EC-9 (Section B).

[1] Nuclear Regulatory Commission, *NuFuels Inc.; Crownpoint Uranium Project In-Situ Recovery Facility; License Renewal Application*, 91 Fed. Reg. 31,476 (May 27, 2026) (opportunity to request a hearing and petition for leave to intervene).

B. Procedural History

Hydro Resources, Inc. ("HRI"), NuFuels' predecessor, first applied for License SUA-1580 in 1988; the NRC staff issued it on January 5, 1998; and an adjudication under former Subpart L followed, in which intervenors were admitted, LBP-98-9, 47 N.R.C. 261 (1998), hearings proceeded in phases, and the license was ultimately sustained. *See, e.g.*, *In the Matter of Hydro Resources, Inc.*, CLI-06-29, 64 N.R.C. 417 (Dec. 14, 2006); *Morris v. NRC*, 598 F.3d 677 (10th Cir. 2010). Construction never commenced. The license has been held in timely-renewal status since, and the proceeding was held in abeyance from 2014 to 2024. ER § 1.2.1 at 7–9.

NuFuels submitted the present license renewal application on January 22, 2025, comprising an Environmental Report (ML25022A292) and a Consolidated Operations Plan (ML25022A293). The staff's acceptance review identified informational gaps in, among other areas, groundwater data and cultural resources, and requested supplemental information. NRC, *Request for Supplemental Information for the Acceptance Review of the License Renewal Application, NuFuels, Inc. Crownpoint Uranium Project, McKinley County, New Mexico*, ML25080A079 (Apr. 10, 2025) ("RSI"). NuFuels responded on June 30, 2025, ML25182A330, and on December 11, 2025, ML25350C307, promising future submissions rather than supplying the requested information in several material respects. The staff accepted the license renewal application for detailed review on February 26, 2026. ML26058A001. NRC staff docketed the application, and the Commission published its notice of opportunity to request a hearing on May 27, 2026, confirming that the facility "has not been constructed." 91 Fed. Reg. at 31,476. On July 9, 2026, NRC staff issued a *Request for Additional Information to Support the Review of the NuFuels License Renewal Application for the Crownpoint Uranium Recovery Project, McKinley County, New Mexico*, ML26191A309 ("RAI") seeking additional information on 24 different aspects of the application necessary for staff to complete the environmental review of the proposed license renewal. As of the time of this filing, no response from the applicant to the July 9, 2026 RAI is publicly available in the ADAMS database. The Secretary's Order of July 9, 2026 denied the State's request for an extension and confirmed the July 27, 2026 deadline for petitions. ML26190A010.

C. The Regulatory Framework

Three bodies of law govern the requested renewal. First, under the Atomic Energy Act and 10 C.F.R. Part 40, the Commission may grant the application only upon findings of reasonable assurance informed by the criteria of Part 40, Appendix A—including Criterion 5B (groundwater protection and restoration standards), Criterion 7 (monitoring adequate to detect excursions), and Criterion 9 (financial surety based on current cost estimates)—and all information the applicant provides must be "complete and accurate in all material respects." 10 C.F.R. § 40.9(a).

Second, NEPA and 10 C.F.R. Part 51 require the applicant to submit an ER which: describes the proposed action, its impacts, and alternatives, 10 C.F.R. § 51.45(b)-(c); lists required federal, state, tribal, and local authorizations and the status of compliance with applicable environmental

standards and requirements, 10 C.F.R. § 51.45(d); and includes adverse information, not confining the report to material supporting the proposed action, 10 C.F.R. § 51.45(e). Because the application is for license renewal, the ER must reflect any significant environmental changes since the prior review. 10 C.F.R. § 51.60(a). The operative NEPA analysis for this project remains the 1997 Final Environmental Impact Statement ("FEIS"), NUREG-1508 (ML082170248), and the staff's new NEPA document must analyze new and significant information under the standard of 10 C.F.R. § 51.92(a)(2) and *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 374 (1989).

Third, 10 C.F.R. § 2.309 governs this petition: the State must demonstrate standing under § 2.309(d) and proffer at least one admissible contention under § 2.309(f)(1). Contentions directed at the ER will migrate to the staff's NEPA document upon its issuance.

D. The Posture of the Proceeding: A Never-Constructed Facility

The decisive feature of this proceeding is its posture. In the twenty-eight years since the NRC issued License SUA-1580, no wellfield has been drilled, no operational baseline established, and no restoration demonstrated; as the Commission's notice states, the facility "has not been constructed." 91 Fed. Reg. at 31,476. The environmental record supporting the license—hydrogeologic modeling from 1993, baseline studies from 1996, archaeological surveys from 1996 and 1998, and a FEIS from 1997—is now approximately three decades old. Functionally, the requested twenty-year authorization is the initial licensing decision for this project, and the scope of the required analysis must be commensurate with that decision.

That posture also frames what this petition is not. The State does not seek to relitigate any issue the prior adjudication resolved. The contentions rest on information no prior decisionmaker possessed: the commercial ISR restoration record accumulated since 2009; the applicant's own 2023 statements to the Department of Energy ("DOE") that no ISR site has restored all constituents to pre-operational concentrations and that restoration technology sufficient to meet New Mexico's standard does not yet exist, NuFuels, Inc., *Project Narrative File: Laboratory-Scale In-Situ Recovery and Restoration Demonstration Using Uranium Deposit Core Materials* (ML23304A114); the staff's own 2025 findings that the application lacks the current data needed to analyze groundwater impacts, RSI (ML25080A079) and RAI (ML26191A309); the 2012 Temporary Access Agreement between HRI and the Navajo Nation, and its unperformed conditions; and the post-licensing state and tribal regulatory developments described below. Each contention identifies what the current application omits or misstates, measured against current law and current conditions.

E. The State's Regulatory Interest

The State's participation is an exercise of its own continuing jurisdiction. Under New Mexico law, the State's underground waters belong to the public, N.M. Stat. Ann. § 72-12-1; the State Engineer administers the very appropriation on which the project's water supply depends; and the New Mexico Environment Department ("NMED") is the primary agency responsible for

groundwater protection under the Water Quality Act, N.M. Stat. Ann. §§ 74-6-1 to -17. On July 21, 2026, NMED advised the Commission that the Church Rock Section 8 project "must obtain an NMED discharge permit before ISR operations may commence," that the pending permit application (DP-2004) has not yet entered technical review (with a decision estimated one to three years away), that any approval will be conditioned on restoration of groundwater quality to baseline, that NMED intends to contest the 1989 Environmental Protection Agency ("EPA") aquifer exemption on which the application relies, and that "[t]he issuance of an NRC license does not supersede the State of New Mexico's independent authority to regulate groundwater quality." Letter from Kelsey Rader, Water Protection Deputy Division Director, NMED, to NRC Office of the Secretary, at 1-2 (July 21, 2026) ("NMED Letter") (attached as Exhibit 1). The Commission's own precedent in this docket recognizes that complementary jurisdiction. *Hydro Resources, Inc.*, CLI-98-16, 48 N.R.C. 119, 121 (1998) (an NRC license "does not preempt other environmental agencies' regulatory jurisdiction"). The State accordingly participates in this proceeding as the sovereign whose citizens, communities, and waters the proposed action would affect; its standing is demonstrated in Section II.

F. Summary of the Contentions

The State submits ten environmental contentions (EC-1 through EC-10) and three safety contentions (SC-1 through SC-3). They present five clusters of deficiencies. First, the ER assumes the feasibility of aquifer restoration while omitting the adverse restoration record—including the applicant's own docketed statements to DOE—and never analyzing the consequences of the secondary-standard outcome its own restoration plan contemplates (EC-1). Second, the application's baselines are decades stale: groundwater data ending in 2011 and modeling from 1993 (EC-2), no analysis of climate change or drought (EC-3), an environmental justice discussion that repeats 1997 recommendations against current data (EC-4), and a cultural resources record the staff itself found outdated and incomplete (EC-6), culminating in an unexamined threat to the Crownpoint community water supply (EC-7). Third, the application omits and misstates preconditions of the proposed action: the Navajo Nation's enactments bearing on transport and access (EC-5), the contractually required NNCERCLA remediation of Church Rock Section 17 (EC-8), and the absence of a lawful right-of-way to Church Rock Section 8, which the ER's access descriptions contradict (EC-9). Fourth, the ER considers no alternative between full authorization and no action (EC-10). Fifth, the application fails to provide reasonable assurance on confinement and financial grounds: the flooded Old Church Rock Mine workings and legacy boreholes compromise the monitoring design (SC-1, SC-2), and the financial assurance showing rests on 2011-vintage approvals with identified uncovered cost categories (SC-3).

For these reasons, developed below, the State respectfully requests that the Board grant this petition, admit the State as a party, admit the contentions, and conduct such further proceedings as are warranted.

II. THE STATE'S STANDING AND PARTICIPATION AS A PARTY

A. The State Petitions Under 10 C.F.R. § 2.309(h)(1) and Designates a Single Representative

The State of New Mexico petitions for party status under 10 C.F.R. § 2.309(h)(1), the provision by which "the participation of a State . . . in which the facility is located" proceeds in Commission adjudications, and the track the hearing notice itself contemplates for governmental participants. *See* 91 Fed. Reg. at 31,477–78; Order of the Secretary (denying extension request) at 2 n.9 (July 9, 2026) (stating that "the hearing notice in this proceeding contemplates that a State or other governmental body seeking to participate as a party should be able to fulfill the conditions necessary to submit a petition within 60 days," and citing 10 C.F.R. § 2.309(h)). Each of the four project areas—Crownpoint, Unit 1, and Church Rock Sections 8 and 17—lies within McKinley County, New Mexico. ER § 1.2 at 6. This petition is timely, filed on or before the July 27, 2026 deadline established by the hearing notice. 91 Fed. Reg. at 31,477-78; 10 C.F.R. § 2.309(b).

Pursuant to § 2.309(h)(1), the State designates a single representative for this proceeding: Esther C. Jamison, Assistant Attorney General, New Mexico Department of Justice, appearing on behalf of the State of New Mexico. *See* N.M. Stat. Ann. § 8-5-2(J) (vesting the Attorney General with the power to "appear before local, state and federal courts and regulatory officers, agencies and bodies, to represent and to be heard on behalf of the state when, in his judgment, the public interest of the state requires such action"). The State does not invoke the standing presumption of § 2.309(h)(2), which by its terms applies to proceedings concerning production or utilization facilities; the State instead makes the traditional standing demonstration required by § 2.309(d), which it readily satisfies.

B. The State Satisfies the Traditional Standing Requirements of § 2.309(d)

Section 2.309(d) requires a petitioner to state its interest in the proceeding, the nature and extent of the property, financial, or other interest that may be affected, and the possible effect of any decision on that interest. Section 189a of the Atomic Energy Act directs the Commission to grant a hearing to any person "whose interest may be affected by the proceeding." 42 U.S.C. § 2239(a). In applying that command through 10 C.F.R. § 2.309(d), the Commission borrows contemporaneous judicial standing concepts, requiring an actual or threatened, concrete and particularized injury that is fairly traceable to the challenged action, falls among the interests protected by the AEA or NEPA, and is likely to be redressed by a favorable decision. *Georgia Institute of Technology* (Georgia Tech Research Reactor), CLI-95-12, 42 N.R.C. 111, 115 (1995); *see U.S. Army Installation Command* (Schofield Barracks, Oahu, Hawaii), LBP-10-4, 71 N.R.C. 216, 228-29 (2010). The injury may be threatened rather than actual. *Georgia Tech*, 42 N.R.C. at 115. Causation does not turn on "whether the cause of the injury flows directly from the challenged action, but whether the chain of causation is plausible." *Sequoyah Fuels Corp.* (Gore, Oklahoma Site), CLI-94-12, 40 N.R.C. 64, 75 (1994). It "is generally sufficient if the petitioner provides plausible factual allegations that satisfy each element of standing." *See Schofield Barracks*, 71 N.R.C. at 229 (citing *Lujan*

v. Defenders of Wildlife, 504 U.S. 555, 561 (1992)). Further, a licensing board "is to construe the [intervention] petition in favor of the petitioner." *Georgia Tech*, 42 N.R.C. at 115; *accord U.S. Army Installation Command* (Davy Crockett Depleted Uranium), LBP-17-4, 85 N.R.C. 225, 238 (2017).

Critically, the quantum of proof demanded at this stage is commensurate with the stage. In *Sequoyah Fuels*, the Board found a sufficient demonstration of injury in fact notwithstanding opposing affidavits denying any injury, reasoning that the potential for injury could not be ruled out and that the question was bound up with merits that should not be reached "prematurely." LBP-94-5, 39 N.R.C. 54, 68, 71 (1994). The Commission affirmed, holding that requiring the petitioner to prove his standing would demand "more technical studies" that are "unnecessary" at this "threshold stage." CLI-94-12, 40 N.R.C. at 74. That principle governs here. The proximity presumption operates automatically only in reactor licensing, *see PPL Bell Bend, LLC* (Bell Bend Nuclear Power Plant), CLI-10-7, 71 N.R.C. 133, 138 (2010); in materials licensing, "[w]hether and at what distance a petitioner can be presumed to be affected must be judged on a case-by-case basis, taking into account the nature of the proposed action and the significance of the radioactive source." *Georgia Tech*, 42 N.R.C. at 116-17.

Under that "proximity-plus" approach a presumption grounded in geographic proximity applies where the proposed action "involves a significant source of radioactivity producing an obvious potential for offsite consequences." *Sequoyah Fuels*, 40 N.R.C. at 75 n.22; *see Schofield Barracks*, 71 N.R.C. at 229, 231. *Georgia Tech* demonstrates how modest that showing is. The Commission there sustained standing for a member working roughly half a mile from a research reactor, over the licensee's insistence that its own safety analysis foreclosed any consequence beyond 100 meters and that the postulated accident sequence was "incredible" because it required three redundant safety systems to fail; the board found it neither "extravagant" nor "a stretch of the imagination" to presume some injury — "which wouldn't have to be very great" — and the Commission declined to disturb that presumption. 42 N.R.C. at 116-17. The inquiry looks to the radiological source and pathway the license authorizes, not to conditions presently existing at an unconstructed site; were it otherwise, no petitioner could ever be heard on a license permitting future construction and operation, and the Commission's recognition that threatened injury suffices would be a nullity. Given these standards, the State satisfies the test for intervention here.

A State's sovereign, quasi-sovereign, and proprietary interests are cognizable, and the Commission and its licensing boards have repeatedly recognized the standing of governmental entities in materials licensing proceedings — including Part 40 ISR proceedings specifically — on precisely the interests presented here. *See Crow Butte Resources, Inc.* (In Situ Leach Facility, Crawford, Nebraska), CLI-09-9, 69 N.R.C. 331, 336-41 (2009) (affirming the Oglala Sioux Tribe's standing in a Part 40 ISR license renewal proceeding based on its governmental interests in cultural resources, lands, and waters); *Crow Butte Resources, Inc.* (Marsland Expansion Area), LBP-13-6, 77 N.R.C. 253, 304-05 (2013) (granting the Tribe's intervention petition and admitting two contentions in an ISR license amendment proceeding), *aff'd*, CLI-14-2, 79 N.R.C. 11, 14 (2014);

Powertech (USA) Inc. (Dewey-Burdock In Situ Uranium Recovery Facility), LBP-10-16, 72 N.R.C. 361, 390-93 (2010) (granting the Oglala Sioux Tribe's intervention petition in a Part 40 ISR licensing proceeding based on its cultural and historic resource interests in lands within its aboriginal territory under the 1868 Fort Laramie Treaty and its NHPA procedural rights); *Louisiana Energy Services, L.P.* (National Enrichment Facility), LBP-04-14, 60 N.R.C. 40 (2004) (admitting the Attorney General of New Mexico and the New Mexico Environment Department as parties in a Part 70 materials licensing proceeding); *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), LBP-98-7, 47 N.R.C. 142 (1998) (admitting the State of Utah as a party in a Part 72 materials proceeding).

1. Sovereign and quasi-sovereign interests.

The State has a sovereign responsibility for the health, safety, and environmental welfare of its citizens, including the approximately 2,900 residents of the town of Crownpoint (ER § 3.1.2 at 60), the residents of the Church Rock and Pinedale communities, and the population of McKinley County. The proposed action would inject oxygen- and bicarbonate-fortified groundwater into, and extract uranium from, the Westwater Canyon aquifer — the same aquifer from which the Crownpoint community water system draws its supply through wells located within two miles of the proposed wellfields and completed in the very sands that contain the uranium deposits to be mined, ER § 3.4.3.2.1-.2 at 107-09 — over a license term of twenty years. The reasonably foreseeable risks the application itself identifies and attempts to mitigate (excursions, drawdown of up to 24 m [80 ft] at municipal well NTUA-1, spills, transport accidents, and the acknowledged possibility that restoration will not achieve baseline standards, and the risk of uranium contamination of the water supply wells during restoration activities, ER §§ 2.1.3.5.1 at 30, 4.4.2.1.1.2.1 at 224-25) are threats to interests at the core of the State's sovereign responsibilities and fall squarely within the zone of interests of both the Atomic Energy Act and NEPA.

Nor is the causal nexus open to serious question. A plausible pathway of harm suffices at the threshold, and neither certainty nor extensive technical studies are required. *USEC Inc.* (American Centrifuge Plant), CLI-05-11, 61 N.R.C. 309, 311-12 (2005); *Sequoyah Fuels*, 40 N.R.C. at 74-75. Indeed, in this very docket, the Presiding Officer held that use of substantial quantities of water "from a source that is reasonably contiguous to either the injection or processing sites" demonstrates a plausible injury-in-fact. *Hydro Resources, Inc.*, LBP-98-9, 47 N.R.C. 261, 275 (1998), *rev'd in part on other grounds*, CLI-98-16, 48 N.R.C. 119, 121-22 (1998); *accord Powertech (USA) Inc.* (Dewey-Burdock In Situ Uranium Recovery Facility), LBP-10-16, 72 N.R.C. 361, 384 (2010) (applying the LBP-98-9 standard). The Crownpoint community wells — completed in the same Westwater Canyon Member within two miles of the proposed wellfields — present that showing *a fortiori*.

The record of this docket, moreover, already documents the pathway, in the Staff's own findings and the applicant's own submissions. The FEIS supporting the license now sought to be renewed found that the proximity of the Crownpoint site to the town's water supply wells means that

"a potential excursion could ultimately travel to the supply wells," because pumping from the supply wells "causes groundwater flow under the Crownpoint site to converge at the wells." FEIS (NUREG-1508) at 4-41. The Staff further found that an excursion escaping down-gradient of the Dakota Sandstone monitor wells "may move undetected toward the town water supply wells," *id.* at 4-43, so that "contamination could move toward the Crownpoint water supply wells," *id.* at 4-44; that the applicant's own model calculated groundwater travel times from the Crownpoint site boundary to town wells BIA-6 and NTUA-1 of 35.6 and 90.4 years — periods within which "it is quite likely" the town will still be drawing on the Westwater Canyon aquifer — with well NTUA-1 positioned to receive only contaminated water and entitled to "no dilution credit," *id.* at 4-47; and that modeled radium-226 concentrations at the town wellheads "exceeded both State of New Mexico and EPA/NNEPA drinking water standards." *Id.* at 4-48. The Staff accordingly concluded that "the potential risk is too great" to leave the municipal wells in place, *id.* at A-24, identified contamination or degradation of the local water supply as "[t]he most significant risk of the proposed project to the local community," *id.* at 5-7, and conditioned the license on replacement of all five town supply wells before lixiviant injection, with the existing wells to be sealed "so that they cannot become future pathways for the vertical movement of contaminants." *Id.* at 4-62. The applicant's 2025 Environmental Report adopts these findings: it acknowledges the NRC Staff's conclusion that there is "a potential risk specific to uranium contamination of the water supply wells" during restoration — the stated basis for License Condition 10.27's well-replacement requirement, ER at 224-25 — and it rates the potential impact of excursions carrying fortified groundwater beyond the aquifer exemption boundary, including vertical excursions enhanced by pumpage from the water supply wells themselves, as "MODERATE to LARGE." ER at 225-26. A contamination pathway that the Staff has found, the license conditions against, and the applicant undertakes to mitigate is a plausible one; under *Sequoyah Fuels*, nothing more is required at this stage.

2. Proprietary and regulatory interests in the State's public waters.

The State's interest is not merely *parens patriae*; it is proprietary and administrative. Under New Mexico law, the underground waters of the State — including the Westwater Canyon aquifer — belong to the public and are subject to appropriation for beneficial use and to administration by the State through the Office of the State Engineer. *See* N.M. Stat. Ann. §§ 72-12-1 ("The water of underground streams, channels, artesian basins, reservoirs or lakes, having reasonably ascertainable boundaries, is declared to belong to the public."). That statutory declaration extends to groundwater the same public-ownership and prior-appropriation framework the New Mexico Constitution establishes for the State's waters, N.M. Const. art. XVI, §§ 1-3, and the New Mexico Supreme Court long ago confirmed that title to the State's underground waters belongs to the public and is subject to appropriation on the same footing. *Yeo v. Tweedy*, 34 N.M. 611, 286 P. 970 (1929); *State ex rel. Bliss v. Dority*, 55 N.M. 12, 225 P.2d 1007 (1950). The application concedes the point at every turn: the project's entire water supply rests on New Mexico Office of the State Engineer ("NMOSE") permit G-11-A, a State-issued appropriation of 650 acre-feet (ER § 3.4.3.3.2 at 111-

12); the ER identifies additional NMOSE water rights applications to be prepared for the Crownpoint and Unit 1 project areas (ER Table 1.3-1 at 16-17); and the application acknowledges a suite of further State authorizations — NMED groundwater discharge, air quality, storm water, and Class I UIC disposal well permits — that the project requires. *Id*.

Further, the same record admissions that establish a plausible contamination pathway to the Crownpoint supply wells, *supra* § B.1, establish a threatened degradation of the public waters themselves: the excursion scenarios the applicant rates MODERATE to LARGE are, by definition, migrations of licensed contaminants into non-exempt portions of an aquifer the State owns and administers. A licensing decision that authorizes twenty years of lixiviant injection, consumptive use, and waste disposal in and above the State's public waters directly and concretely affects resources the State owns in trust and administers, and the outcome of this proceeding — grant, denial, or conditioning of the renewal — will determine the nature and extent of that effect. Injury, traceability, and redressability follow directly.

The State's regulatory interest is, moreover, current and concrete. By letter to the Commission dated July 21, 2026, NMED advised that NuFuels' groundwater discharge permit application for the Church Rock Section 8 project, assigned DP-2004, has not yet entered technical review; that a permit decision is an estimated one to three years away; that any approval will be conditioned on restoration of groundwater quality to established baseline levels; and that NMED intends to contest the 1989 EPA aquifer exemption on which the application relies and to request that EPA revoke it. NMED Letter at 1-2. As NMED advised the Commission, "[t]he issuance of an NRC license does not supersede the State of New Mexico's independent authority to regulate groundwater quality." NMED Letter at 2; *accord Hydro Resources, Inc.*, CLI-98-16, 48 N.R.C. 119, 121 (1998) (recognizing, in this docket, that "an NRC license does not preempt other environmental agencies' regulatory jurisdiction"). The licensing decision in this proceeding would thus intersect a live exercise of State authority.

3. Additional proprietary interests and burdens.

The application routes all project transportation — process chemicals, loaded resin between Church Rock and the Crownpoint Central Plant, yellowcake to Metropolis, Illinois, and 11e.(2) byproduct and other wastes — over State highways, including NM 566, NM 371, and NM 118. ER § 2.1.3.2 at 19-20, § 3.2 at 72-74, § 4.2 at 212-17. The State maintains those routes, and its agencies would bear emergency response and oversight burdens in the event of the transport accidents, spills, or excursions the ER analyzes. These interests independently support standing and inform the scope of the State's participation.

4. The effect of the decision on the State's interests.

The possible effects of the decision on the foregoing interests, § 2.309(d)(1)(iv), track the contentions: authorization of the project on the present record would permit operations affecting the State's public waters and its citizens' drinking water supply on the basis of an environmental report

and technical basis the State contends are outdated, incomplete, and inaccurate in the respects set out in Contentions EC-1 through EC-10 and SC-1 through SC-3. Denial, or conditioning of any renewed license, would redress those injuries.

C. In the Alternative, the State Requests Discretionary Intervention Under § 2.309(e)

Should the presiding officer conclude that the State has not established standing as of right — a conclusion the State believes is contravened by the record— and should a hearing nevertheless go forward otherwise, the State requests discretionary intervention under 10 C.F.R. § 2.309(e). Each factor weighing in favor of intervention is present: the State's participation may reasonably be expected to assist in developing a sound record, given the water resources, radiation control, and environmental programs the application implicates (§ 2.309(e)(1)(i)); the State's interests in its public waters, its highways, and the welfare of its citizens are precisely the kind of interests the proceeding will determine (§ 2.309(e)(1)(ii)-(iii)); and no other party represents the State's distinct sovereign and proprietary interests (§ 2.309(e)(2)(ii)).

D. Alternative Request for Participation Under § 2.315(c)

Finally, and without waiving its request for party status, the State requests in the alternative that, if its petition is denied in whole or in part but a hearing is granted on any other petitioner's contentions, the State be afforded the opportunity to participate as an interested State under 10 C.F.R. § 2.315(c), with the reasonable opportunity to introduce evidence, interrogate witnesses, advise the Commission, and file proposed findings on the admitted contentions, through its designated single representative. The hearing notice expressly preserves this pathway. 91 Fed. Reg. at 31,478.

III. CONTENTIONS OF THE STATE OF NEW MEXICO

Legal Standards Governing Contention Admissibility. Under 10 C.F.R. § 2.309(f)(1), a petition must set forth with particularity each contention sought to be raised and, for each, must: (i) provide a specific statement of the issue of law or fact to be raised or controverted; (ii) provide a brief explanation of the basis for the contention; (iii) demonstrate that the issue is within the scope of the proceeding; (iv) demonstrate that the issue is material to the findings the NRC must make to support the action involved; (v) provide a concise statement of the alleged facts or expert opinions supporting the petitioner's position, together with references to the specific sources and documents on which the petitioner intends to rely; and (vi) provide sufficient information to show that a genuine dispute exists with the applicant on a material issue of law or fact, including references to the specific portions of the application the petitioner disputes or, where the application is alleged to omit relevant information required by law, the identification of each such omission and the supporting reasons for the petitioner's belief.

For each contention below, the bolded statement of the contention supplies the specific statement required by § 2.309(f)(1)(i), and Sections A through E address § 2.309(f)(1)(ii) through

(vi), respectively. Because the contentions arise in substantial part under NEPA, they are properly directed at the applicant's Environmental Report, 10 C.F.R. § 2.309(f)(2), and will apply to the NRC staff's NEPA document upon its issuance to the extent the relevant analysis remains materially unchanged. *Powertech USA, Inc.* (Dewey-Burdock in Situ Uranium Recovery Facility), 81 N.R.C. 618, 631 n. 39 (Apr. 30, 2015) ("The migration tenet applies when the information in the [NEPA document] is sufficiently similar to the information in the applicant's environmental report, and allows previously admitted contentions challenging the environmental report to apply to relevant portions of the [NEPA document]" (citing *Progress Energy Florida, Inc.* (Levy County Nuclear Power Plant, Units 1 and 2), LBP-11-1, 73 N.R.C. 19, 26 (2011))). Where a contention identifies the omission of legally required information, identification of the omission and of the legal requirement for its inclusion demonstrates the genuine dispute § 2.309(f)(1)(vi) requires.[2]

CONTENTION [EC-1]: FAILURE TO DEMONSTRATE THE FEASIBILITY OF AQUIFER RESTORATION

Contention: The Environmental Report fails to demonstrate that groundwater in the Westwater Canyon aquifer production zones can be restored to the primary restoration standards of 10 C.F.R. Part 40, Appendix A, Criterion 5B(5) (background or maximum concentration limit ("MCL")), fails to analyze the environmental impacts that will result if restoration achieves only the ER's fallback secondary standards, derives its restoration baseline from non-representative ore-zone sampling without analyzing the consequences, and rests its groundwater impact conclusions on a 2009 NRC staff data compilation that does not reflect seventeen years of subsequent commercial ISR restoration experience, in violation of 10 C.F.R. §§ 51.45(b), (c), and (e) and 51.60(a).

A. Brief Explanation of the Basis (§ 2.309(f)(1)(ii))

The ER's restoration program adopts a two-tier structure: the primary goal is restoration to Criterion 5B(5) background or MCL values, but "[i]f the restoration activities are unable to achieve the background or MCL, whichever is greater, the secondary goal will be to return water quality to the maximum concentration limits as specified in Section 20.6.2.3103 NMAC or 40 CFR § 141.62 or 143.3." ER § 2.1.3.5.1 at 30. The ER thus concedes on its face that restoration to baseline may fail. Yet the ER's impact analyses assume restoration succeeds: the groundwater impacts and cumulative impacts discussions conclude that operations will not adversely affect non-exempt

[2] Several contentions cite the staff's July 9, 2026 RAI, ML26191A309. The State recognizes that the issuance of a request for additional information does not of itself establish a deficiency in an application or a genuine dispute. *See Duke Energy Corp.* (Oconee Nuclear Station, Units 1, 2, and 3), CLI-99-11, 49 N.R.C. 328, 336-37 (1999). The RAI is cited for a narrower purpose: the staff's own identification that specified information is necessary to the findings it must make confirms the materiality, under § 2.309(f)(1)(iv), of omissions the State independently identifies, and confirms that the information is absent from the application as filed. No response to the RAI is publicly available in ADAMS as of the date of this petition.

portions of the aquifer, relying on license conditions and on the NRC staff's 2009 compilation, "Data on Groundwater Impacts at the Existing ISR Facilities" ("NRC 2009"), for the proposition that historical excursions "did not pose a threat to human health or the environment." ER § 2.2.3.5 at 48; § 4.4.2 at 223-28. Nowhere does the ER analyze the consequences of the secondary-standard outcome its own restoration plan contemplates — for the exempted zone boundary, for adjacent non-exempt portions of the Westwater Canyon aquifer, or for the drinking water wells completed in that aquifer.

The infeasibility problem begins with the restoration target itself. The primary standard — background or MCL, "whichever is greater" — depends on baseline values whose derivation the ER does not defend: baseline wells screened only through the ore zone, which drilling and well development have mechanically disturbed and oxidized, elevating dissolved concentrations above true pre-mining conditions. Declaration of Dr. Richard Abitz ("Abitz Declaration") at ¶¶ 19–21 (attached as Exhibit 2). The ER's own tables report pre-mining mean radium-226 above the drinking-water MCL in every project area and mean uranium above the MCL at Unit 1 and Church Rock. ER Tables 3.4-7 at 119, 3.4-8 at 120, 3.4-14 at 133. A restoration target inflated by non-representative sampling ensures that contamination remains in the aquifer above true baseline even where restoration nominally succeeds, and the ER contains no analysis of the consequences — for the restoration targets, for the excursion upper control limits derived from the same values, or for the non-exempt portions of the aquifer and the wells completed in them. Abitz Declaration ¶¶ 21, 23–24.

The site's own history confirms that the two-tier structure is inadequately discussed. At the Mobil Section 9 pilot site, in the Westwater Canyon aquifer one mile north of Unit 1, one year of pilot-scale mining between 1979 and 1986 was followed by six years of restoration — groundwater sweep, lime treatment, reverse osmosis, and sulfide injection — that failed to restore pre-mining contaminant levels. Abitz Declaration at ¶¶ 9, 12; NRC (1988), Appendices B & C (ML071350629). Against that record, the ER proposes restoration periods shorter than the production periods they follow at every project area — 4.6 years after 6 at Church Rock Section 8, 2.5 after 4 at Section 17, 5.4 after 6 at Unit 1, and 13.3 after 14 at Crownpoint, ER § 2.1.3.1 at 18 — using the same standard methods, ER § 2.1.3.5.2 at 31-32, without analysis reconciling that schedule with the Section 9 failure. Abitz Declaration at ¶¶ 9-10, 12.

The omissions are compounded by reliance on a seventeen-year-old data set: Since 2009, the commercial ISR industry has accumulated a restoration record — completed and attempted restorations, approved alternate concentration limits, and restoration timelines and pore-volume requirements that have consistently exceeded original projections — that constitutes new and significant information bearing directly on the feasibility the ER assumes. Abitz Declaration at ¶¶ 13-17 (summarizing the post-2009 restoration record at the same facilities whose data comprise the 2009 compilation on which the ER relies). The applicant's own docketed admission demonstrates an industry-wide failure to restore to pre-mining conditions. ML23304A114 at 4 ("To date, no ISR site has restored all groundwater constituents of concern to pre-operational

concentrations"). The 1997 FEIS (NUREG-1508) and the prior adjudication predate this record entirely; the contention therefore does not seek to relitigate any previously resolved issue, but to require analysis of information no prior decisionmaker possessed.

The applicant's own docketed statements confirm the point. In its 2023 project narrative for a DOE–funded laboratory restoration research program with Los Alamos National Laboratory — awarded July 17, 2023, Assistance Agreement DE-NE0009326, and docketed with the NRC at ML23304A114 and ML23304A119 — NuFuels stated that "[t]o date, no ISR site has restored all groundwater constituents of concern to pre-operational concentrations and most receive alternate concentration limits for at least one regulated constituent"; that uranium concentrations "tend to gradually rebound" after initial restoration as uranium desorbs from insufficiently flushed matrix pores, requiring further sweeps "in an asymptotic trend of diminishing returns" which "require large amounts of groundwater and produce large amounts of wastewater that must subsequently be disposed of"; that chemical amendments "have shown limited efficacy"; and that ISR development in New Mexico "has stalled due to a lack of restoration technology that can ensure compliance with New Mexico's post-ISR uranium in groundwater standard of background or 0.03 mg/L, whichever is higher." ML23304A114 at 4-5, 13. The applicant thus told the DOE— in a document publicly docketed in the agency's ADAMS system — that the technology needed to ensure compliance with the governing restoration standard does not yet exist and that developing it is the object of ongoing research, while submitting an ER whose impact conclusions assume restoration succeeds and which discloses none of these statements, the research program, or its results. Section 51.45(e) requires precisely this adverse information to be included rather than omitted.

The State's groundwater regulator has now confirmed both the governing standard and its consequences. By letter to the Commission dated July 21, 2026, NMED— the primary agency responsible for groundwater protection in New Mexico under the Water Quality Act—advised that NuFuels' groundwater discharge permit application for the Church Rock Section 8 project, assigned DP-2004, has not yet entered technical review; that a permit decision is an estimated one to three years away; and that NMED "will require the applicant to restore groundwater quality to established baseline levels as a condition of a discharge permit approval." NMED Letter at 1.. NMED further advised that it intends to contest the 1989 EPA aquifer exemption on which the application relies and to request that EPA revoke it — in part because the exemption was supported by requirements in a state discharge permit that NMED has since terminated, and because aquifer exemptions "are not permitted" under the underground injection control rules NMED has administered since obtaining primacy in 2001, 20.6.2.5000 to .5399 NMAC. NMED Letter at 1-2; *see* ER Table 1.3-1 at 16 (Class III UIC permit "[a]pproved in 1989 for Church Rock Section 8 project area"); Consolidated Operations Plan (ML25022A293) ("COP") at COP-9 (describing June 21, 1989 exemption approval). The ER's contrary assertion that "the production aquifer must be exempted as an underground source of drinking water through NMED or EPA," ER § 4.4.2.1.1.2.1 at 225, thus describes a state exemption pathway the state regulator has told the

Commission is challenged. The ER's secondary restoration goal — return to the maximum concentration limits of 20.6.2.3103 NMAC where baseline cannot be achieved — is a fallback the agency administering those regulations has stated it will not accept, and the exempted-aquifer boundary on which the ER's non-exempt-portion impact conclusions depend is one the State has announced it will seek to eliminate. The ER must disclose and analyze the impacts and consequences of this regulatory reality.

B. Scope of the Proceeding (§ 2.309(f)(1)(iii))

The contention challenges the adequacy of the ER supporting the requested renewal, a matter squarely within this proceeding. 91 Fed. Reg. 31,476, 31,477 (May 27, 2026). It will migrate to the NRC staff's NEPA document upon issuance.

C. Materiality (§ 2.309(f)(1)(iv))

Restoration feasibility is the central environmental premise of ISR licensing: every SMALL or not-significant groundwater impact conclusion in the ER depends on it. The aquifer at issue supplies drinking water to the town of Crownpoint (2020 population 2,900) and surrounding communities served by the Navajo Tribal Utility Authority ("NTUA") system (ER § 3.4.3.2.1-.2 at 107-09), and the ER projects up to 24 m [80 ft] of drawdown at municipal well NTUA-1 (ER § 4.4.2.1.1.2.1 at 224-25). Whether restoration to protective standards is achievable is material to the NEPA analysis and to the Commission's findings under the Atomic Energy Act and Part 40, Appendix A, Criteria 5B(5)-(6). Because the operative NEPA analysis for this never-constructed facility remains the 1997 FEIS (NUREG-1508), the post-2009 restoration record is also precisely the kind of new and significant information whose analysis the supplementation standard requires. 10 C.F.R. § 51.92(a)(2); *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 374 (1989). NMED has likewise confirmed to the Commission that in-situ recovery of uranium "has never been approved nor implemented in New Mexico." NMED Letter at 2. The ER must supply the information that analysis requires. The staff's July 9, 2026 RAI independently identifies both gaps this contention raises: RAI-17 seeks confirmation that the early-1990s baseline groundwater information is "demonstrably representative" of current conditions for restoration criteria and impact analyses, and RAI-19 seeks confirmation that the "restoration time frames, target restoration values, stability-monitoring approach, rebound assumptions," and the "extrapolation of demonstration results to Church Rock Section 17, Unit 1, and Crownpoint" reflect current conditions. RAI-17, RAI-19. ML26191A309.

D. Supporting Facts and Expert Opinion (§ 2.309(f)(1)(v))

The supporting facts are: (1) the ER's own two-tier restoration structure conceding baseline restoration may fail, ER § 2.1.3.5.1 at 30-31; (2) the absence of any analysis of the secondary-standard outcome anywhere in Chapters 4 or 5, Abitz Declaration at ¶ 23; (3) the ER's reliance on NRC 2009, ER § 2.2.3.5 at 48; (4) the expert declaration summarizing the post-2009 commercial restoration record, Abitz Declaration at ¶¶ 13-17,(5) License Condition 10.28's requirement of a

commercial-scale restoration demonstration at Church Rock Section 8 that has never been performed, ER § 2.1.3.5.3 at 32, Abitz Declaration at ¶ 9; (6) the absence from the application of any disclosure of the DOE-funded laboratory restoration research program, including its work plan (ML23304A114), assistance agreement (ML23304A119), the 2023 core drilling program at Church Rock Sections 8 and 17 conducted to supply it, or of any data or results it has produced (*see also* Abitz Declaration at ¶ 18); (7) the NMED Letter, stating the baseline-restoration permit condition, the pendency and one-to-three-year timeline of DP-2004, and NMED's intent to contest the 1989 aquifer exemption; (8) the expert opinion that ore-zone-screened baseline sampling produces non-representative values, Abitz Declaration at ¶¶ 19–21, 24, together with the ER's own pre-mining mean values exceeding MCLs, ER Table 3.4-7 at 119, Table 3.4-8 at 120, Table 3.4-14 at 133; and (9) the Mobil Section 9 pilot restoration failure and the ER's unreconciled restoration schedule, Abitz Declaration at ¶¶ 9-12.

E. Genuine Dispute With Specific References (§ 2.309(f)(1)(vi))

The State specifically controverts ER § 2.1.3.5.1 at 30-31 (restoration goals), § 4.4.2.1.1.3 at 227-28 (aquifer restoration impacts), § 2.2.3.5 at 48-49 (cumulative groundwater impacts and reliance on NRC 2009), § 5.4.2.2.3 at 281 (restoration as mitigation), COP §§ 8.5-8.6 (restoration program and baseline determination), ER § 4.4.2.1.1.2.1 at 225 (asserted NMED exemption pathway), and ER Table 1.3-1 at 16 (status of the 1989 exemption and the state groundwater discharge permit), ER Tables 3.4-7, 3.4-8, and 3.4-14 at 119-20, 133 (pre-mining mean constituent values), and ER § 2.1.3.1 at 18. To the extent the contention identifies omissions — the missing analysis of the secondary-standard outcome and of the post-2009 record, and of the consequences of non-representative baseline derivation — the governing requirements are 10 C.F.R. §§ 51.45(b) (impacts discussed in proportion to significance), 51.45(c) (analysis), 51.45(e) (adverse information), and 51.60(a). The § 51.45(e) omission is concrete: the applicant withheld from its ER the specific adverse statements and restoration-feasibility research identified above, ML23304A114, which it possessed and had docketed with this agency before the ER was prepared.

CONTENTION [EC-2]: RELIANCE ON OUTDATED HYDROGEOLOGIC DATA AND MODELING

Contention: The Environmental Report's description of the affected groundwater environment and its groundwater impact analyses rest on water level data ending in 2011, water quality characterization largely predating the 1997 FEIS, and drawdown modeling performed in 1993 and baseline studies from 1996 — deficiencies the NRC staff itself identified in its acceptance review and that the applicant has conceded it cannot yet cure for lack of site access — in violation of 10 C.F.R. §§ 51.45(b), 51.60(a), and 40.9.

A. Brief Explanation of the Basis (§ 2.309(f)(1)(ii))

The most recent groundwater levels reported in the ER for the Church Rock project areas are from 2011, appended to a potentiometric interpretation carried forward from 1993. ER § 3.4.3.3.3

at 112. The drawdown projections on which the ER's municipal-well impact conclusions rest were generated by a 1993 model (Reed 1993) and 1996 baseline studies (HRI 1996). ER § 4.4.2.1.1.2.1 at 224-25. The NRC staff's RSI concluded that "[t]o conduct an analysis of the impacts of in situ recovery (ISR) operations on groundwater, the NRC staff needs current information about groundwater levels," and directed NuFuels to provide updated data or justify its absence. ML25080A079, at 5, item GW ER 1. NuFuels responded by promising measurements in the third quarter of 2025, ML25182A330 at 8, then conceded in December 2025 that sampling cannot occur until the Navajo Nation grants right-of-entry, which remains outstanding. ML25350C307 at 1. The application was docketed in May 2026 with the staff-identified gap unfilled.

Fifteen years of regional drought, water development (including the Navajo-Gallup Water Supply Project, ER § 3.4.3.1.1 at 106), and changed water use are unexamined. Abitz Declaration at ¶¶ 25-31 (opining on the inadequacy of a 2011-vintage baseline and 1993-vintage modeling for analyzing operations proposed to begin in the late 2020s, and identifying the elements of a current characterization).

B. Scope of the Proceeding (§ 2.309(f)(1)(iii))

The contention challenges ER adequacy and application completeness under § 40.9 — the same provisions the staff invoked in the RSI — and is within the scope of the renewal proceeding.

C. Materiality (§ 2.309(f)(1)(iv))

The vintage of the hydrogeologic baseline determines the reliability of every groundwater conclusion in the application: excursion detection assumptions, drawdown projections at the Crownpoint municipal wells, restoration water balance, and cumulative impact analyses. The staff has already determined — in this docket — that it cannot analyze ISR impacts on the existing data. RSI at 5, item GW ER 1. ML25080A079. The July 9, 2026 RAI extends that determination to the modeling itself: RAI-12 asks the applicant to explain the basis for concluding that "modeling conducted in prior periods such as 1993 and 2009" provides a representative basis for the ER's Section 4.4 impact conclusions, observing that "[c]urrent and projected water-use conditions may differ from the conditions assumed in older modeling, including changes associated with municipal pumping, replacement municipal wells, and the Navajo-Gallup Water Supply Project"; RAI-13 seeks confirmation that potentiometric surfaces, hydraulic gradients, and municipal pumping assumptions remain representative; RAI-14 does the same for the hydrogeologic framework and aquifer confinement; and RAI-17 does the same for the baseline data. RAI-12 through RAI-14, RAI-17. ML26191A309.

D. Supporting Facts and Expert Opinion (§ 2.309(f)(1)(v))

The supporting facts are documentary: ER § 3.4.3.3.3 at 112 (2011 data); ER § 4.4.2.1.1.2.1 at 224-25 (Reed 1993; HRI 1996); RSI at 5, item GW ER 1; ML25182A330 at 8 (promise); ML25350C307 at 1 (concession of non-performance). The expert declaration supplies the technical significance of the staleness. Abitz Declaration at ¶¶ 25-31.

E. Genuine Dispute With Specific References (§ 2.309(f)(1)(vi))

The State specifically controverts ER §§ 3.4.3.2-3.4.3.3 at 104-41 (groundwater affected environment), § 4.4.2 at 223-28 (groundwater impacts), and § 2.2.3.5 at 48-49 (cumulative impacts), each of which rests on the outdated data and modeling identified above; and it identifies the omission of the current characterization required by §§ 51.45(b) and 51.60(a) and by § 40.9's completeness requirement.

CONTENTION [EC-3]: FAILURE TO ANALYZE CLIMATE CHANGE AND DROUGHT

Contention: The Environmental Report contains no analysis of climate change or drought in any respect — neither the effects of the region's hotter and drier climate on aquifer recharge, water availability, evaporation pond performance, and the project's restoration water balance, nor the greenhouse gas emissions of the proposed multi-decade project — despite proposing substantial consumptive groundwater use in an arid region over a 20-year license term, in violation of 10 C.F.R. §§ 51.45(b) and (c) and 51.60(a).

A. Brief Explanation of the Basis (§ 2.309(f)(1)(ii))

The omission is document-wide: the ER contains no occurrence of the terms "climate change" or "drought." The sections where the analysis belongs confirm the gap. The meteorology and climatology discussion, ER § 3.6 at 148-51, characterizes the regional climate using station records ending in 2010-2011 and contains no discussion of observed or projected change. The water resources impact analysis quantifies consumptive use — approximately 50 ac-ft per project area during construction and ongoing process bleed during operations, drawing on the 650 ac-ft G-11-A appropriation — and projects drawdown over a 21-year operating period, ER § 4.4.2.1.1 at 223-25, without considering climate-driven changes in recharge, regional demand, or baseline water levels over that period. The cumulative impacts chapter, ER § 2.2, is likewise silent.

Two decades of Southwestern drought and aridification science postdate the 1997 FEIS and constitute new and significant information requiring analysis under § 51.60(a) and NEPA's hard-look standard. *See* White, *et al., 2023: Ch. 28. Southwest. In: Fifth National Climate Assessment,*. U.S. Global Change Research Program, Washington, DC, USA (https://toolkit.climate.gov/sites/default/files/2025-07/NCA5_Ch28_Southwest.pdf) (viewed July 27, 2026). No expert declaration is required to establish an omission apparent on the face of the ER, though the sources cited will document the significance of the omitted subject.

B. Scope of the Proceeding (§ 2.309(f)(1)(iii))

The contention challenges ER adequacy and is within the scope of the renewal proceeding; it will migrate to the staff's NEPA document.

C. Materiality (§ 2.309(f)(1)(iv))

Water is the resource at the center of this licensing action — the production zones, the restoration program, and the affected drinking water supplies are all in a single aquifer system in an arid basin. Whether that system's behavior over the 20-year license term is analyzed under realistic climatic assumptions is material to the NEPA findings and to the reliability of the drawdown and restoration analyses on which the safety case also depends.

D. Supporting Facts and Expert Opinion (§ 2.309(f)(1)(v))

The supporting facts are the absence of the analysis from the ER (verifiable by inspection of ER §§ 2.2, 3.6, 4.4, and 4.6 and by full-text search); the vintage of the climate data the ER does use, ER § 3.6 at 148-51; the ER's own consumptive-use and drawdown figures, ER § 4.4.2.1.1 at 223-25; and the publicly available climate assessments cited above.

E. Genuine Dispute With Specific References (§ 2.309(f)(1)(vi))

The State identifies the omission of legally required analysis from ER §§ 2.2 (cumulative impacts), 3.6 at 148-51 (affected climate), 4.4 at 221-28 (water resources impacts), and 4.6 at 234-36 (air quality/emissions), and specifically controverts the adequacy of each. The governing requirements are §§ 51.45(b) (impacts in proportion to significance), 51.45(c) (quantified analysis), and 51.60(a) (updating for significant environmental change).

CONTENTION [EC-4]: INADEQUATE ENVIRONMENTAL JUSTICE ANALYSIS

Contention: The Environmental Report presents current demographic and health data showing that the affected communities are among the most environmentally burdened in the nation — finding that block groups within and around the project areas were 97 to 100 percent people of color, 46 to 79 percent low income, with elevated health burden indicators, ER § 3.1 at 192 — and then performs no environmental justice impact analysis at all, instead repeating verbatim the mitigation recommendations from the 1997 FEIS and declaring them "still appropriate," in violation of 10 C.F.R. §§ 51.45(b) and (c) and 51.60(a).

A. Brief Explanation of the Basis (§ 2.309(f)(1)(ii))

ER § 3.11 at 192-93 tabulates current EJScreen community and health indicators for the five block groups in and around the project areas: 97-100% people of color (versus 62% statewide), 46-79% low income (versus 39%), $9,697 to $20,598 per capita income, and low-life-expectancy indicators of 23% (versus 19% statewide). But the impact analysis uses none of it. ER § 4.11 at 253-54. It states instead that EJ "was litigated as part of Phase I in 1999," recites that the 1997 FEIS "presented several NRC staff recommendations," declares that "[t]hese recommendations are still appropriate," and repeats them. No assessment of disproportionately high and adverse effects is performed against current conditions in any impact category; the analysis does not integrate the community's dependence on the Westwater Canyon aquifer for drinking water, the legacy uranium contamination burden the ER acknowledges elsewhere (ER §§ 2.2.2, 3.12.2.2), or the current demographic data in the ER's own Chapter 3.

The ER's mitigation chapter concedes the analytical predicate the impact chapter ignores: "[b]ecause the population near the project areas is made up almost entirely of Native Americans, many of whom live in poverty, any significant adverse environmental impact resulting from the project will be an environmental justice impact." ER § 5.11 at 291. An ER that concedes that premise and then conducts no current-conditions impact analysis has not taken the hard look § 51.45 requires.

B. Scope of the Proceeding (§ 2.309(f)(1)(iii))

The contention challenges the adequacy of the ER's environmental justice analysis — a recognized subject of NRC NEPA review — and is within scope. It does not relitigate the 1999 Phase I rulings, which addressed a different analysis of different-era conditions; it challenges the adequacy of the 2025 ER's treatment of 2020s conditions, a question no prior board decided.

C. Materiality (§ 2.309(f)(1)(iv))

Environmental justice analysis shapes the identification, weighting, and mitigation of impacts in the staff's NEPA document; an ER that supplies no current analysis deprives the staff's review of its required foundation. Materiality is heightened here because the ER itself acknowledges that any significant adverse impact will fall almost entirely on low-income Native American communities. ER § 5.11 at 291.

D. Supporting Facts and Expert Opinion (§ 2.309(f)(1)(v))

The supporting facts appear on the face of the ER: the § 3.11 data tables at 192-93; the § 4.11 impact discussion at 253-54 consisting of the repeated 1997 recommendations; the § 5.11 concession at 291; and the ER's wholesale incorporation of the FEIS § 4.13.12 EJ cumulative impact analysis, ER § 2.2.3.13 at 52. No expert opinion is required to establish the mismatch between the data presented and the analysis performed.

E. Genuine Dispute With Specific References (§ 2.309(f)(1)(vi))

The State specifically controverts ER § 4.11 at 253-54, § 5.11 at 291, and § 2.2.3.13 at 52, and identifies the omission of a current-conditions disproportionality analysis required by §§ 51.45(b)-(c) and 51.60(a) and by the environmental review guidance the ER purports to follow (NUREG-1748 § 6.3.10 and App. C).

CONTENTION [EC-5]: FAILURE TO ADDRESS THE NAVAJO NATION'S LEGAL PROHIBITIONS AS CHANGED CIRCUMSTANCES

Contention: The Environmental Report and COP wholly omit reference to the Diné Natural Resources Protection Act of 2005, 18 N.N.C. §§ 1301-1303; the Navajo Nation's Radioactive and Related Substances, Equipment, Vehicles, Persons and Materials Transportation Act of 2012, CAU-37-24; and Navajo Nation Executive Order 04-2023, and therefore fails to disclose or analyze their consequences for the transportation of loaded resin, yellowcake, and wastes; for land

use and access assumptions involving tribal routes; for the socioeconomic and environmental justice analyses; and for the practical feasibility and schedule of the proposed action, in violation of 10 C.F.R. §§ 51.45(b) and (e), 51.60(a), and 40.9.

A. Brief Explanation of the Basis (§ 2.309(f)(1)(ii))

A full-text review of the ER and COP discloses no reference to any of the three legal codifications — the Nation's 2005 prohibition on uranium mining and processing within Navajo Indian Country, its 2012 restrictions on transport of radioactive substances across Navajo lands, or the 2023 executive order reaffirming both. Yet the application's operational design assumes activities those enactments squarely address. The Diné Natural Resources Protection Act of 2005 states that "[n]o person shall engage in uranium mining and uranium processing on any sites within Navajo Indian Country." 18 N.N.C. § 1303 *accord* Navajo Nation Executive Order 04-2023. The Navajo Nation's Radioactive and Related Substances, Equipment, Vehicles, Persons and Materials Transportation Act of 2012 prohibits the transport of uranium ore, yellowcake, radioactive waste and other radioactive products other than those used for medical purposes across Navajo Nation lands. CAU-37-24. Yet, the ER describes the transport of loaded resin from the Church Rock satellite facility to the Crownpoint Central Plant, ER § 2.1.3.3.1 at 20-21, § 4.2.1.1.2 at 212-16; yellowcake shipped from Crownpoint to Metropolis, Illinois, ER § 2.1.3.4.4.3 at 29; access to the Crownpoint and Unit 1 project areas over tribal routes Navajo 9 and Navajo 11, ER § 2.1.3.2 at 19-20, § 3.2.1 at 72; and (per Contention EC-8) the off-haul of radium-contaminated spoil from Section 17. All three Navajo Nation enactments postdate the 1997 FEIS; two postdate the conclusion of the prior adjudication. They are changed regulatory circumstances and new and significant information that § 51.60(a) requires a supplemental ER to reflect, and their omission means that the application is not "complete and accurate in all material respects," in violation of § 40.9. Section 51.45(e) independently requires that the report include adverse information rather than confining itself to information supporting the proposed action.

The contention does not ask the Commission to adjudicate the validity or preemptive effect of Navajo law. The issues identified in this contention are wholly within the sovereign Navajo Nation's jurisdiction and the State takes no position on how or when they are resolved. Rather, the contention asks that the ER disclose the existence of these enactments, analyze their consequences for the routes, schedules, and activities the ER assumes, and analyze feasible alternatives or mitigation — the same disclosure NEPA requires for any serious legal or practical obstacle to a proposed action.

B. Scope of the Proceeding (§ 2.309(f)(1)(iii))

Framed as an ER-disclosure and application-completeness contention, this is within scope. The State does not place the legal status of the tribal enactments at issue: whether and how the Navajo Nation applies its own law within its territory is the Nation's decision alone, and nothing in this contention asks the Commission to review it. The contention addresses only the applicant's independent duty under Part 51 and § 40.9 to disclose and analyze the current legal landscape as

significant material facts that may affect its intended operations. *See Hydro Resources, Inc.*, CLI-98-16, 48 N.R.C. 119, 121-22 (1998); Contention EC-9, Section B.

C. Materiality (§ 2.309(f)(1)(iv))

Transportation is integral to the proposed action — the satellite-plant design requires continuous resin haulage between Church Rock and Crownpoint — and the ER's transportation risk analysis, route assumptions, and cumulative impacts conclusions all presuppose lawful, uncontested transit. Whether the assumed operations conflict with the enacted law of the government whose lands and communities surround the project bears directly on the accuracy of the NEPA analysis and the realism of the project description on which every impact conclusion rests. The staff's own review confirms the materiality of the omitted tribal legal landscape: RAI-1g observes that ER Table 1.3-1 "appears to include only State- and Federal-level approvals and consultations" and directs the applicant to identify "Navajo Nation, other Tribal, and local agency approvals that should be added to the table," together with the status of each. ML26191A309.

D. Supporting Facts and Expert Opinion (§ 2.309(f)(1)(v))

The supporting facts are: (1) the enactments themselves — 8 N.N.C. §§ 1301-1303; the 2012 Transportation Act, CAU-37-24; Executive Order 04-2023; (2) the absence of any reference to them in the ER or COP; (3) the ER's transport and access assumptions, ER § 2.1.3.2 at 19-20, § 2.1.3.3.1 at 20-21, § 2.1.3.4.4.3 at 29, § 3.2 at 72-74, § 4.2 at 212-17; and (4) the checkerboard land status of the project areas and routes described in ER § 3.1 at 59-61. No expert opinion is required.

E. Genuine Dispute With Specific References (§ 2.309(f)(1)(vi))

The State specifically controverts the ER's transportation and access analyses, § 3.2 at 72-74 and § 4.2 at 212-17, and its cumulative transportation discussion, § 2.2.3.2 at 45-46, as resting on undisclosed and unanalyzed legal conflict, and identifies the omission of the disclosure and analysis required by §§ 51.45(b), 51.45(e), 51.60(a), and 40.9.

CONTENTION [EC-6]: OUTDATED AND INCOMPLETE CULTURAL RESOURCES ANALYSIS

Contention: The Environmental Report's historical and cultural resources analysis rests on archaeological surveys conducted in 1996 and 1998 and a Traditional Cultural Places inventory approximately thirty years old that was limited to local Navajo traditionalists despite acknowledged cultural ties of the Zuni and Hopi; the NRC staff's acceptance review found this information outdated and incomplete in six particulars; the applicant's responses cured none of them, promising surveys of only two of the four project areas on a schedule that has already slipped; and the effects assessment therefore lacks any current factual foundation — all in violation of 10 C.F.R. §§ 51.45(b), 51.60(a), and 40.9.

A. Brief Explanation of the Basis (§ 2.309(f)(1)(ii))

The staff's April 10, 2025 RSI, ML25080A079, found: no cultural resource investigations disclosed since 1998 (Cul ER 1 at 1); an inventory that is "outdated and incomplete," requiring current surveys to SHPO/THPO standards (Cul ER 2 at 1); no Cultural Resource Management Plan provided (Cul ER 3 at 2-3); a Traditional Cultural Places ("TCP") inventory "approximately 30 years old," and "limited to local Navajo traditionalists," even though multiple tribes and pueblos have a presence in the area (including the Hopi, Zuni, Acoma, Laguna, Ute, and Apache); the ER states that "both the Zuni Tribe and the Hopi Tribe indicated traditional cultural ties to the project area" but neither "appears to have participated in a TCP survey" (Cul ER 4 at 3); an unexplained "passing reference to five modern burials" (Cul ER 5 at 4); and no comprehensive site inventory or National Register of Historic Places evaluation status (Cul ER 6 at 4-5). NuFuels' responses were prospective and promissory: it conceded that "[n]o additional archaeological investigations have been conducted," proposed new surveys of Church Rock Sections 8 and 17 only — excluding Crownpoint and Unit 1 on the theory that License Conditions 9.12 and 10.28 "limit what areas should be resurveyed" — and promised results in the fourth quarter of 2025. ML25182A330 at 2-4. In December 2025 the surveys slipped to the second quarter of 2026. ML25350C307 at 1. Meanwhile, the NRC staff has notified the Advisory Council on Historic Preservation ("ACHP") of potential adverse effects on historic properties, and the ACHP has confirmed that a Section 106 agreement document will be required. ML26147A023 (May 13, 2026). The enclosure conveying NuFuels' responses is captioned "CROW BUTTE LICENSE RENEWAL APPLICATION" — a different licensee's uranium recovery facility in Nebraska. ML25182A330 at 2.

The applicant's deferral theory is itself the deficiency: license conditions requiring pre-construction surveys govern when ground may be disturbed; they do not excuse the ER from containing, now, the current inventory and effects assessment that 10 C.F.R. §§ 51.60(a) and 51.45(b) and NUREG-1748 §§ 6.3.8 and 6.4.8 require to support the licensing decision. An effects assessment (ER § 3.8.3.4-.5 at 175-76, § 4.8 at 242-43) resting on a thirty-year-old inventory the staff has found inadequate is no assessment at all.

B. Scope of the Proceeding (§ 2.309(f)(1)(iii))

This contention is within the scope of the proceeding because it challenges the adequacy of the ER under Part 51 and application completeness under § 40.9 —provisions the NRC staff itself invoked. It is not pled as a freestanding NHPA violation: while Section 106 compliance is the staff's obligation, the ER's informational adequacy is the applicant's. Petitioner reserves the right to raise any NHPA arguments upon NRC staff's completion of its licensing exercise. *See Crow Butte,* CLI-14-2, 79 N.R.C. at 20 n.49; *Crow Butte*, CLI-09-9, 69 N.R.C. at 350–51 (claims of a violation of the consultation requirement under the NHPA may be interposed only after the Staff has issued its draft environmental review document).

C. Materiality (§ 2.309(f)(1)(iv))

This contention is material because the staff's NEPA findings and Section 106 process will draw upon the record the applicant supplies, including its analysis of the project's impact on cultural resources. An ER lacking a current inventory for two of four project areas entirely, and lacking any TCP input from tribes with acknowledged ties, cannot support those findings.

D. Supporting Facts and Expert Opinion (§ 2.309(f)(1)(v))

The supporting facts are documentary: RSI items Cul ER 1-6; ML25182A330 at 2-7; ML25350C307 at 1; ML26147A023; ER §§ 3.8.1-3.8.5 at 170-78 and § 4.8 at 242-43.

E. Genuine Dispute With Specific References (§ 2.309(f)(1)(vi))

The State specifically controverts ER §§ 3.8.3.3-3.8.5 at 174-78 (identification and effects discussion resting on the 1996/1998 record) and § 4.8 at 242-43 (impacts analysis), and identifies the omission of the current inventories, TCP surveys, Cultural Resources Management Plan, and burial treatment required by §§ 51.45(b), 51.60(a), 40.9, and NUREG-1748 §§ 6.3.8 and 6.4.8 — omissions confirmed, rather than cured, by the applicant's post-RSI correspondence.

CONTENTION [EC-7]: INADEQUATE ANALYSIS OF IMPACTS TO THE CROWNPOINT COMMUNITY WATER SUPPLY

Contention: The Environmental Report fails to analyze the impacts of wellfield operations on the Crownpoint community water supply — five Bureau of Indian Affairs ("BIA") and Navajo Tribal Utility Authority ("NTUA") wells serving the town of Crownpoint (2020 population 2,900) and the surrounding NTUA distribution system, several completed in the same Westwater Canyon Member targeted for lixiviant injection within two miles of the wellfields — against current demand, population, well configuration, and hydrologic conditions, relying instead on a 1993 drawdown model, 1996 baseline studies, and License Condition 10.27's well-replacement requirement as a substitute for impact analysis, in violation of 10 C.F.R. §§ 51.45(b) and (c) and 51.60(a).

A. Brief Explanation of the Basis (§ 2.309(f)(1)(ii))

The ER identifies wells BIA-3, BIA-5, BIA-6, NTUA-1, and NTUA-2 near the Crownpoint project area completed in the Westwater Canyon Member. ER § 3.4.3.2.1 at 108. The impact analysis projects cumulative drawdown at NTUA-1 of 17 m [55 ft] after 21 years and a maximum of 24 m [80 ft] after 17 years — projections generated by a model built in 1993 (Reed 1993) — and concludes the town wells will be unaffected on the basis of "[b]aseline studies conducted by HRI (HRI 1996)." ER § 4.4.2.1.1.2.1 at 224-25. For water quality, the cumulative impacts discussion states that license conditions "will mitigate these potential impacts," pointing to License Condition 10.27's requirement that NuFuels "replace the town of Crownpoint water supply wells prior to the commencing operations." ER § 2.2.3.5.1 at 49.

The analysis fails to provide complete information or satisfy NEPA. Thirty-year-old modeling and baseline studies cannot support present-tense conclusions about a municipal system whose demand, configuration, and hydrologic setting have three decades of unexamined change (*see* Contention EC-2). Further, well replacement is mitigation, not analysis: the ER nowhere analyzes what replacement entails — the source, quality, capacity, timing, and reliability of replacement supply for the community; the impacts of drilling and operating replacement wells; or the consequences for the community if restoration of the production zones ultimately achieves only the secondary standards the ER itself contemplates (*see* Contention EC-1). NEPA's hard look doctrine requires a discussion of mitigation that is required to avoid known and anticipated impacts.

B. Scope of the Proceeding (§ 2.309(f)(1)(iii))

The contention challenges ER adequacy and is within scope. It does not collaterally attack License Condition 10.27; it challenges the ER's use of that condition as a substitute for the analysis Part 51 requires.

C. Materiality (§ 2.309(f)(1)(iv))

The proposed action would inject lixiviant into the aquifer that supplies drinking water to the adjacent community. The adequacy of the analysis of that community's water supply is material to the NEPA findings, to the environmental justice analysis (Contention EC-4), and to the mitigation determinations in any license issued. The staff has independently identified this as an open analytical gap. RAI-12 expressly names "replacement municipal wells" and "the Navajo-Gallup Water Supply Project" among conditions that may differ from those assumed in the older modeling; RAI-13 notes that "[t]he CUP FEIS identified the influence of Crownpoint municipal pumping on groundwater gradients and flow directions" and seeks confirmation that those interpretations remain representative; and RAI-15 directs the applicant to provide "a current groundwater-user and receptor inventory" for each project area and the surrounding 3.2 km [2 mi] review areas, identifying populations served, aquifer completions, and "whether each receptor is connected to or independent of public water-supply systems." The current-conditions analysis of the community water supply that this contention identifies as missing is thus information the staff itself has determined it needs. ML26191A309.

D. Supporting Facts and Expert Opinion (§ 2.309(f)(1)(v))

The supporting facts are: ER § 3.4.3.2.1-.2 at 107-09 and Tables 3.4-9 and 3.4-11 (well inventory); ER § 4.4.2.1.1.2.1 at 224-25 (Reed 1993 model; HRI 1996 baseline; drawdown projections); ER § 2.2.3.5.1 at 49 (reliance on License Condition10.27); ER § 3.1.2 at 60 (2020 population); and the absence from Chapters 4 and 5 of any analysis of replacement supply. Abitz Declaration at ¶¶ 1, 29-31, 32 (drawdown-model vintage and heterogeneous-modeling results; ¶ 31, 32 expressly extends those opinions to this contention). The contention is otherwise document based.

E. Genuine Dispute With Specific References (§ 2.309(f)(1)(vi))

The State specifically controverts ER § 4.4.2.1.1.2.1 at 224-25 and § 2.2.3.5.1 at 49, and identifies the omission of a current-conditions analysis of the community water supply and of the replacement-well mitigation, as required by §§ 51.45(b)-(c) and 51.60(a).

CONTENTION [EC-8]: FAILURE TO DISCLOSE AND ANALYZE THE MANDATORY PRE-OPERATIONAL REMEDIATION OF THE CHURCH ROCK SECTION 17 PROJECT AREA

Contention: The Environmental Report fails to disclose that NuFuels' remediation of preexisting radioactive contamination at the Church Rock Section 17 project area is a binding contractual precondition to commencing ISR operations at Church Rock Section 8 — to be performed under the Navajo Nation Comprehensive Environmental Response, Compensation and Liability Act ("NNCERCLA"), 4 N.N.C. § 2101 *et seq.* — and fails to describe or analyze the remediation's scope, schedule, waste volumes and disposal pathways, costs, environmental impacts, and consequences for project sequencing and feasibility, in violation of 10 C.F.R. §§ 51.45(b)-(e), 51.60(a), and 40.9.

A. Brief Explanation of the Basis (10 C.F.R. § 2.309(f)(1)(ii))

On July 19, 2012, the Navajo Nation and HRI — NuFuels' predecessor as holder of License SUA-1580 — executed a Temporary Access Agreement resolving a Navajo Nation civil trespass enforcement action (the "2012 Agreement") (Exhibit 3). Paragraph 2 of the 2012 Agreement provides that the licensee "agrees to complete the remediation of any radioactive contamination now existing on Section 17 or Section 8 ('preexisting contamination') prior to commencing its planned in-situ leach uranium operations on Section 8," and that remediation of Section 17 "will be completed in accordance with" NNCERCLA "under either a negotiated remediation plan, an Administrative Order of Consent or a Unilateral Administrative Order."

The ER expressly acknowledges NuFuels' clean-up commitments in two places — stating that "NuFuels has committed to the Navajo Nation to clean-up the Church Rock Section 17 project area prior to construction" (ER § 2.2.3.3 at 46-47) and that "NuFuels has committed to the Navajo Nation to characterize the Church Rock Section 17 site and remove or remediate spoilage with elevated radium-226 to acceptable Navajo Nation Standards" (ER § 3.12.2.2 at 197). However, the ER does not disclose the tribal regulatory process through which it must proceed. Beyond those two sentences, the details about the remediation are absent from the application: the proposed project schedule (ER at 38-39) contains no remediation phase preceding the "Initial Construction" of licensed facilities at Church Rock; the summary of required licenses and permits (ER Table 1.3-1 at 16-17) identifies no NNCERCLA instrument; the waste management analysis (ER §§ 2.1.3.7, 4.13) does not address the volumes, characterization, transport, or disposal destination of remediated spoil; the transportation analysis (ER § 4.2) does not address hauling radium-contaminated material from Section 17; the cost and financial assurance discussion (ER § 2.1.3.8)

reflects surety approvals from 2011 that predate the 2012 Agreement and identifies no remediation cost; and the environmental impacts chapters contain no analysis of the impacts of the remediation itself.

These omissions are not cured by the ER's observation that radiological emissions from the Section 17 spoilage "were litigated and determined by the ASLBP (63 N.R.C. 41 (2006), LBP-06-1) to be considered as background radiation." ER § 2.2.3.3 at 46-47. This contention does not disturb that determination. Whatever the spoilage's classification for purposes of Part 40 background analysis, the applicant is bound to remediate it before operating, through a defined tribal regulatory process, and NEPA and 10 C.F.R. § 51.45 require the ER to describe and analyze an activity that is a necessary, connected component of the proposed action.

B. The Contention Is Within the Scope of the Proceeding (10 C.F.R. § 2.309(f)(1)(iii))

This proceeding concerns the renewal of License SUA-1580 based on the application NuFuels submitted, including the ER prepared under 10 C.F.R. Part 51. *See* 91 Fed. Reg. at 31,477 (NRC "will prepare a National Environmental Policy Act (NEPA) environmental document for the proposed license renewal"). A contention challenging the adequacy and completeness of the ER's description and analysis of the proposed action and its impacts is squarely within the scope of a licensing proceeding, and may appropriately be raised against the applicant's ER at this stage, migrating to the staff's NEPA document upon its issuance. The contention likewise implicates 10 C.F.R. § 40.9's requirement that information provided by an applicant be complete and accurate in all material respects — a requirement the NRC staff itself invoked in this docket. RSI, ML25080A079, at 1-2 (Apr. 10, 2025). Nor is the applicability of the Navajo Nation's requirements open to dispute by this applicant: in Paragraph 1 of the 2012 Agreement, NuFuels' predecessor expressly consented and submitted to the Navajo Nation's territorial, legislative, executive, and judicial jurisdiction for activities with proximate effects to the Navajo Nation and covenanted not to contest that jurisdiction. Exhibit 3, ¶ 1. Further, the contention does not ask the Commission to administer NNCERCLA or to adjudicate the Nation's regulatory jurisdiction, *see* Contention EC-9, Section B (discussing *Hydro Resources, Inc.*, CLI-98-16, 48 N.R.C. 119 (1998)), as these issues are wholly within the sovereign jurisdiction of the Navajo Nation. Rather, the contention addresses the applicant's failure to disclose and analyze a remediation obligation the applicant itself acknowledges.

C. The Issue Is Material to the Findings the NRC Must Make (10 C.F.R. § 2.309(f)(1)(iv))

The undisclosed remediation obligation and its impacts affect the entire project. License Condition 10.28 requires a commercial-scale groundwater restoration demonstration at Church Rock Section 8 before lixiviant injection at Section 17, Crownpoint, or Unit 1 may commence. ER § 2.1.3.5.3 at 32. Under Paragraph 2 of the 2012 Agreement, operations at Section 8 may not commence until the Section 17 remediation is complete. The remediation's scope, timeline, cost, and feasibility therefore bear directly on: the ER and NEPA analysis of the proposed action and

its alternatives; the accuracy of the project schedule underlying every phased impact conclusion in the ER; the adequacy of financial assurance under 10 C.F.R. Part 40, Appendix A, Criterion 9; and the Commission's ultimate reasonable-assurance findings. The ER itself quantifies the stakes: baseline gamma measurements at the Church Rock project areas range "from 1.05 to 30.66 mSv/yr [105 to 3,066 mrem/yr], with the higher concentrations generally found in association with previous uranium mining activity," ER § 3.12.2.2 at 196-97 — the upper bound roughly twenty times the background range the ER reports for Crownpoint and Unit 1 (ER § 3.12.2.1 at 196), and the ER acknowledges that under Criterion 6(6) soil contamination exceeding background by 5 pCi/g radium-226 "must be remediated." ER § 2.2.3.3 at 46.

D. Concise Statement of the Facts Supporting the Contention (10 C.F.R. § 2.309(f)(1)(v))

The contention rests on documentary facts. First, the 2012 Agreement, Paragraph 2, obligates the licensee to completely remediate preexisting radioactive contamination on Section 17 prior to commencing ISR operations on Section 8, through a NNCERCLA negotiated plan, administrative order on consent, or unilateral administrative order. Exhibit 3. Second, the ER twice acknowledges that commitment but supplies no analysis of how the remediation would occur, its status, or how it would impact construction or operations. ER § 2.2.3.3 at 46-47; § 3.12.2.2 at 197. Third, the proposed project schedule contains no remediation phase, sequencing "Initial Construction" at Church Rock Sections 8 and 17 as the project's first activity. ER at 38-39. Fourth, Table 1.3-1's inventory of required federal, state, and tribal authorizations identifies no NNCERCLA instrument or Navajo Nation approval associated with the remediation. ER at 16-17. The staff has now flagged the same defect: RAI-1g states that Table 1.3-1 "does not appear to identify Tribal or local (e.g., Navajo Nation) permits or approvals that may be required" and directs their addition. ML26191A309. Fifth, the financial assurance discussion identifies no remediation cost and rests on Restoration Action Plans approved in 2011 — before the 2012 Agreement existed. ER § 2.1.3.8 at 38. Sixth, no NNCERCLA remediation plan, order on consent, or unilateral order for Section 17 appears in the application. These facts and documents are the sources on which the State relies; no expert opinion is required to establish an omission apparent on the face of the application, although the State reserves the right to supplement this contention with expert analysis of remediation scope and cost.

E. A Genuine Dispute Exists With the Application on a Material Issue (10 C.F.R. § 2.309(f)(1)(vi))

This contention identifies specific portions of the application that the State disputes and specific omissions of legally required information: ER § 2.2.3.3 at 46-47 and § 3.12.2.2 at 197 (disclosing a "commitment" while omitting its binding character, regulatory pathway, and analysis of consequences for the project); ER at 38-39 (project schedule omitting the remediation phase); ER Table 1.3-1 at 16-17 (permit inventory omitting the NNCERCLA instrument); ER § 2.1.3.8 at 38 (financial assurance omitting remediation costs); ER §§ 2.1.3.7 and 4.13 (waste management analysis omitting remediation-derived wastes); ER § 4.2 (transportation analysis omitting spoil

transport, including any conflict with the Navajo Nation Radioactive and Related Substances Equipment, Vehicles, Persons and Materials Transportation Act of 2012); and ER Chapters 4 and 5 (impact and mitigation analyses omitting the remediation's own impacts). Where a contention alleges the omission of required information, identification of the omission and the legal requirement for its inclusion suffices to demonstrate a genuine dispute; the requirements here are 10 C.F.R. §§ 51.45(b) (description of the proposed action and its environmental impacts), 51.45(c) (analysis commensurate with impacts), 51.45(d) (status of compliance with "applicable environmental quality standards and requirements including, but not limited to" the illustrative categories enumerated in that subsection), 51.45(e) (requiring that the report not be confined to information supporting the proposed action but also include adverse information), 51.60(a) (supplemental ER reflecting significant changes), and 40.9 (complete and accurate information).

CONTENTION [EC-9]: MATERIAL MISSTATEMENT OF SITE ACCESS AND FAILURE TO DISCLOSE AND ANALYZE THE ABSENCE OF A LAWFUL RIGHT-OF-WAY TO CHURCH ROCK SECTION 8

Contention: The Environmental Report materially misstates site access to the Church Rock Sections 8 and 17 project areas by repeatedly asserting that primary access "is from NM 566," when the applicant's predecessor acknowledged in the 2012 Agreement with the Navajo Nation that the NM 566 right-of-way does not intersect Section 8 and covenanted not to cross Navajo Nation trust lands to access Section 8 except pursuant to a right-of-way consented to by the Nation and granted by the United States under 25 U.S.C. §§ 323-328 and 25 C.F.R. Part 169. No such right-of-way exists: NuFuels conceded as recently as December 11, 2025 that it is still seeking "Right-of-Entry/Right-of-Way permissions" from the Navajo Nation. The ER neither discloses nor analyzes this access deficiency and its consequences for the transportation analysis, the construction and operations schedule, and the feasibility of the proposed action, in violation of 10 C.F.R. §§ 51.45(b), (d), and (e), 51.60(a), and 40.9.

A. Brief Explanation of the Basis (10 C.F.R. § 2.309(f)(1)(ii))

The ER asserts in at least three places that access to the Church Rock project areas runs from NM 566: "Primary access to the Church Rock Sections 8 and 17 project areas is from NM 566," with a driving route north on NM 566 to "the primary access gate," ER § 2.1.3.2.3 at 20; "[t]he primary access to the Church Rock Sections 8 and 17 project areas is west from NM 566," ER § 2.2.3.2.3 at 45-46; and the same assertion at ER § 3.2.1.3 at 72. The application's transportation impact analysis, traffic estimates, and shipment routing all build on that premise. ER §§ 3.2, 4.2.

The premise is contradicted by the record. The 2012 Agreement recites that "the Navajo Nation recently determined and HRI understands that the State of New Mexico right of way connected with State Highway 566 does not intersect with Section 8." Exhibit 3, Recitals. The Agreement further recites that in October 2011 HRI crossed Navajo trust lands (Sections 17 and 9) to reach Section 8; that the Navajo Nation Division of Natural Resources issued a Notice of Violation and

Order finding civil trespass under 16 N.N.C. § 2201 et seq. and ordering HRI to cease crossing Navajo lands absent "an appropriate right-of-way, under Navajo law, the general Indian Right-of-Way Act, 25 U.S.C. §§ 323-328 and implementing regulations at 25 C.F.R. Part 169"; and in Paragraph 4, HRI covenanted "not to cross any Navajo trust lands for purposes of accessing Section 8 or other lands owned or leased by HRI except pursuant to any lawful grant consented to by the Navajo Nation and granted by the United States." Exhibit 3 at ¶ 4, Recitals.

Fourteen years later, no such grant exists. In its December 11, 2025 response to the NRC staff's RSI, NuFuels stated that it "will also collect groundwater samples from designated monitoring locations once appropriate site access is granted by the Navajo Nation" and that it is "actively working with the Navajo Nation to secure the required Right-of-Entry/Right-of-Way permissions." ML25350C307 at 1. The application thus describes, models, and draws impact conclusions from an access route the applicant does not have and has acknowledged it may not lawfully use — and omits from Table 1.3-1's inventory of required approvals (ER at 16-17) the very right-of-way grant under 25 C.F.R. Part 169 without which the Church Rock phase cannot proceed.

B. The Contention Is Within the Scope of the Proceeding (10 C.F.R. § 2.309(f)(1)(iii))

The contention challenges the accuracy and completeness of the application and ER on which the requested renewal would rest — quintessential subject matter for a licensing proceeding. It does not ask the Commission to adjudicate Navajo Nation law or to hold that the Nation's consent requirements bar licensing; it asks that the application accurately describe site access, disclose the required federal authorization, and analyze the environmental and programmatic consequences of the access deficiency, as §§ 51.45 and 40.9 require. Section 51.45(d) independently requires the ER to list "all Federal permits, licenses, approvals and other entitlements which must be obtained in connection with the proposed action." A right-of-way across Indian trust land granted by the United States under 25 U.S.C. §§ 323-328 is such a Federal entitlement, and it is absent from Table 1.3-1.

This contention respects both the previous proceedings in this matter and the sovereignty of the Navajo Nation. In the previous adjudication in this matter, the Commission reversed the admission of an area of concern alleging "failure to obtain proper permits from the Navajo nation," holding that whether non-NRC permits are required "is the responsibility of bodies that issue such permits" and that the NRC does not adjudicate or enforce other authorities' permitting requirements. *Hydro Resources, Inc.*, CLI-98-16, 48 N.R.C. 119, 120-22 (1998). The State asks for nothing of the kind. Whether, when, and on what terms to grant the consent and permissions the applicant seeks are decisions committed to the Navajo Nation alone, as a sovereign exercising authority over its own lands, and this contention takes no position on them. The deficiency the contention identifies is the applicant's: its application misstates existing access and omits the disclosures that the Commission's own regulations impose on an applicant. 10 C.F.R §§ 51.45(b), (d), and (e); § 40.9. Those obligations apply today, on the application as filed, whatever the

Nation's disposition of the pending requests may be. And the Commission's previous decision confirms rather than undermines the contention's premise: an NRC license "does not preempt other environmental agencies' regulatory jurisdiction," 48 N.R.C. at 121, which is precisely why the Commission's regulations require the application to disclose accurately the authorizations on which the proposed action depends and the status of compliance with them.

C. The Issue Is Material to the Findings the NRC Must Make (10 C.F.R. § 2.309(f)(1)(iv))

Church Rock Section 8 is the mandatory first phase of the entire project: the proposed schedule commences with construction there (ER at 38-39), and License Condition 10.28 conditions all subsequent phases on a restoration demonstration performed there (ER § 2.1.3.5.3 at 32). If lawful access to Section 8 does not exist, every schedule-dependent impact conclusion in the ER — construction timing, phased operations, restoration sequencing, cumulative-impact overlap analyses (such as the ER's assumption that CUP traffic and the NECR mine-site cleanup on NM 566 are "unlikely" to "occur simultaneously," ER § 2.2.3.2.3 at 45-46) — rests on an unfounded premise. This deficiency also has already created consequences for the adequacy of the record: NuFuels attributes its failure to supply the groundwater data the staff's acceptance review required (RSI item GW ER 1) to this same lack of access. ML25350C307 at 1. Access is therefore material to the NEPA analysis, to the staff's ability to complete the environmental and safety review on incomplete data, and to the Commission's reasonable-assurance findings.

D. Concise Statement of the Facts Supporting the Contention (10 C.F.R. § 2.309(f)(1)(v))

The supporting facts are documentary. First, the ER's access assertions. ER § 2.1.3.2.3 at 20; § 2.2.3.2.3 at 45-46; § 3.2.1.3 at 72. Second, the 2012 Agreement's recitals and Paragraph 4, establishing that the NM 566 right-of-way does not reach Section 8, that access requires crossing Navajo trust lands, and that the licensee covenanted not to do so absent a federally granted right-of-way. Exhibit 3 Third, NuFuels' December 11, 2025 admission that right-of-entry/right-of-way permissions remain unsecured. ML25350C307 at 1. Fourth, Table 1.3-1's omission of any 25 C.F.R. Part 169 right-of-way from the inventory of required authorizations. ER at 16-17. Fifth, the proposed project schedule's omission of any right-of-way acquisition activity. ER at 38-39. No expert opinion is necessary to establish these facts; the State reserves the right to supplement.

E. A Genuine Dispute Exists With the Application on a Material Issue (10 C.F.R. § 2.309(f)(1)(vi))

The dispute is visible on the face of the record: the application affirmatively asserts a primary access route (ER §§ 2.1.3.2.3 at 20, 2.2.3.2.3 at 45-46, 3.2.1.3 at 72) that the 2012 Agreement contradicts, and that the applicant's own docketed correspondence concedes remains unavailable. The State specifically controverts those sections: Table 1.3-1 at 16-17 (omission of the required Federal right-of-way entitlement, contra § 51.45(d)); the project schedule at 38-39 (omission of right-of-way acquisition); and the transportation and cumulative impact analyses premised on the

asserted route (ER §§ 3.2, 4.2, 2.2.3.2). To the extent the contention identifies omissions, the governing requirements are §§ 51.45(b), (d), and (e), 51.60(a), and 40.9.

CONTENTION [EC-10]: INADEQUATE CONSIDERATION OF ALTERNATIVES

Contention: The Environmental Report considers only the proposed action and the no-action alternative and fails to discuss any reasonable intermediate alternative — including a reduced-scope project excluding the Church Rock project areas, a configuration excluding the Crownpoint wellfields nearest the community water supply wells, and a phased authorization sequenced to the results of the License Condition 10.28 restoration demonstration — and fails to discuss whether any alternative would comply with applicable environmental quality standards and requirements, in violation of 10 C.F.R. §§ 51.45(b)(3), (c), and (d) and 51.60(a).

A. Brief Explanation of the Basis (§ 2.309(f)(1)(ii))

The ER's alternatives discussion begins and ends with the proposed 20-year renewal for all four project areas and the no-action alternative. ER §§ 2.1.1-2.1.2 at 17. The ER does not identify or analyze any intermediate alternative, nor does it discuss any potential alternative's compliance with applicable environmental quality standards and requirements, although § 51.45(d) requires it. The requirements against which that discussion must proceed are concrete and current. NMED has advised the Commission that the Church Rock Section 8 project must obtain a state groundwater discharge permit before ISR operations may commence; that the pending application, DP-2004, has not entered technical review and a decision is an estimated one to three years away; that any approval will be conditioned on restoration of groundwater quality to baseline; and that NMED intends to contest the 1989 aquifer exemption and request its revocation by EPA. NMED Letter at 1-2. The ER discusses the compliance of no alternative — indeed, of no configuration of the proposed action — against any of these requirements. The rule of reason ties the depth of the required discussion to the nature of the decision, and the decision here is not the routine continuation of an operating facility: License SUA-1580, issued in 1998, "has not been constructed," 91 Fed. Reg. at 31,476, and the license has been held in timely-renewal status since 2002 and in abeyance from 2014 to 2024. ER § 1.2.1 at 9. Functionally, the requested renewal is the initial authorization decision for a project that has never broken ground, and the alternatives discussion must be commensurate with that decision. NUREG-1748 § 6.2.

Other intermediate alternatives are visible on the face of this record: (i) a reduced-scope project excluding the Church Rock project areas, which would address some of the issues raised here, such as the flooded Old Church Rock Mine workings (Contention SC-1), the mandatory Section 17 remediation precondition (Contention EC-8), and the absence of a lawful right-of-way (Contention EC-9); (ii) a configuration excluding the Crownpoint wellfields nearest the BIA/NTUA municipal supply wells (Contention EC-7); (iii) a phased authorization sequenced to the results of the License Condition 10.28 restoration demonstration rather than a single 20-year authorization for all four project areas; and (iv) alternative water supply and liquid waste disposal configurations not dependent on Class I injection wells that remain unpermitted, ER Table 1.3-1

at 16. Each is bounded on the application's own project description, and responsive to the sharpest site-specific risks the record presents. No expert opinion is required to establish an omission apparent on the face of the ER.

B. Scope of the Proceeding (§ 2.309(f)(1)(iii))

The contention challenges the adequacy of the ER and is within the scope of the renewal proceeding; it will migrate to the staff's NEPA document upon issuance. It does not ask the Board to select among alternatives; it identifies the absence of the discussion §§ 51.45(b)(3), (c), and (d) and 51.60(a) require the applicant to supply.

C. Materiality (§ 2.309(f)(1)(iv))

The comparison of alternatives is the analytical core of NEPA review, and the staff cannot weigh alternatives the ER never presents. Materiality is heightened here by the never-constructed posture and by the concentration of contested risk at particular project areas: if restoration feasibility (Contention EC-1), the Section 17 remediation precondition (Contention EC-8), or lawful access to Section 8 (Contention EC-9) resolves adversely, the reduced-scope and phased alternatives could be the only available decision space — and the ER supplies no analysis of any of them.

D. Supporting Facts (§ 2.309(f)(1)(v))

The supporting facts are documentary: ER §§ 2.1.1-2.1.2 at 17 (the two-alternative structure); 91 Fed. Reg. 31,476 (never constructed); ER § 1.2.1 at 7-9 (procedural history); ER Table 1.3-1 at 16-17 (unpermitted disposal pathway); and the record materials cited in Contentions EC-1, EC-7, EC-8, EC-9, and SC-1.

E. Genuine Dispute With Specific References (§ 2.309(f)(1)(vi))

The State specifically controverts ER §§ 2.1.1-2.1.2 and identifies the omission of the alternatives discussion required by §§ 51.45(b)(3) and (c), the alternatives-compliance discussion required by § 51.45(d) (final sentence), and the updating required by § 51.60(a). Where a contention alleges the omission of required information, identification of the omission and the legal requirement for its inclusion suffices to demonstrate a genuine dispute.

CONTENTION [SC-1]: INADEQUATE CHARACTERIZATION OF, AND MONITORING DESIGN FOR, THE OLD CHURCH ROCK MINE WORKINGS

Contention: The application fails to demonstrate adequate confinement and excursion detection at the Church Rock project areas because it does not adequately characterize the flooded underground workings of the Old Church Rock Mine and because its monitoring design treats those workings as though they were discrete wells — placing monitor wells "no more than 122 m [400 ft]" from the workings and asserting without analysis that excursion detection "will not be influenced by the presence of the mine workings" — contrary to the requirements of 10 C.F.R.

Part 40, Appendix A, Criteria 5B(2) and 7, and without the reasonable assurance the Atomic Energy Act requires.

A. Brief Explanation of the Basis (§ 2.309(f)(1)(ii))

The COP's characterization of the workings is conclusory and admittedly uncertain: "To the best of NuFuels knowledge, the workings themselves do not extend up into the Dakota sand," although "the shaft does appear to be opened slightly into the Dakota, one to two feet at the very bottom of the sand." COP § 8.3 at COP-83. The monitoring design then treats this laterally extensive, flooded drift network as point sources: "monitor wells will be located by treating historical production mine workings like they were injection or production wells," encircling wellfields "at a distance of no more than 122 m [400 ft] from the edge of the production wells, injection wells, and mine workings." The application concludes that "[t]his will ensure that the detection of potential horizontal excursions will not be influenced by the presence of the mine workings." ER § 2.1.3.3.3.2 at 23-24; *accord* COP § 8.2. However, no analysis supports that conclusion. A flooded mine — interconnected drifts, stopes, and a shaft penetrating multiple stratigraphic units — is a high-transmissivity preferential pathway whose hydraulic behavior differs fundamentally from that of the porous-condition assumptions underlying the standard ring-monitoring practice: it can transmit contaminated groundwater rapidly along drift alignments, bypassing monitor wells spaced for flow under natural conditions, and the incompletely mapped vertical extent of the workings bears directly on the risk of vertical excursions into the Dakota Sandstone. Abitz Declaration at ¶¶ 33-38 (¶¶ 34–35: the 400-foot/flooded-workings, ¶ 35: NECR-2 migration data; ¶¶ 33, 37–38: vertical-pathway points). The ER's own cumulative discussion confirms the workings' hydraulic significance: historical mining dewatered the Westwater Canyon and Brushy Basin "B" aquifers, with possible effects on the Dakota, and the workings flooded upon cessation. ER § 2.2.3.5.2 at 49.

B. Scope of the Proceeding (§ 2.309(f)(1)(iii))

The contention challenges the adequacy of the technical basis for the requested renewal under Part 40, Appendix A — core safety subject matter for this proceeding.

C. Materiality (§ 2.309(f)(1)(iv))

Excursion detection is the safety system on which every groundwater protection conclusion at Church Rock depends. Appendix A's Criterion 7 requires a monitoring program adequate to detect excursions, and Criterion 5B(2) requires that seepage of hazardous constituents into the groundwater be controlled. Whether the network geometry and monitoring protocols are valid in the presence of the workings determines whether the application provides reasonable assurance for the project's mandatory first phase. The staff's environmental review has independently reached the same subject: RAI-7 directs the applicant to address the Old Church Rock Mine specifically and to "[e]xplain whether historical mine workings and other subsurface penetrations could act as preferential pathways, storage zones, hydraulic sinks or sources, vertical migration

pathways, lateral migration pathways, subsidence features, or restoration challenges," and RAI-14 notes the ER's position that "Cow Springs monitoring would not be conducted unless vertical connection is found during confinement testing" and seeks confirmation that the confinement interpretations on which that position rests remain representative. ML26191A309.

D. Supporting Facts and Expert Opinion (§ 2.309(f)(1)(v))

The supporting facts are the quoted provisions of COP § 8.3 at COP-83 and ER § 2.1.3.3.3.2 at 23-24; the dewatering and reflooding history at ER § 2.2.3.5.2 at 49; and the expert declaration explaining the hydraulic behavior of flooded workings and the inadequacy of the 400-foot well-analogy design. Abitz Declaration ¶¶ 8, 33-38; ¶¶ 34–35 (flooded-workings hydraulics and 400-foot-analogy); ¶ 35 (NECR-2 migration data).

E. Genuine Dispute With Specific References (§ 2.309(f)(1)(vi))

The State specifically controverts COP § 8.3 at COP-83 (characterization), COP § 8.2 and ER § 2.1.3.3.3.2 at 23-24 (monitoring design and the no-influence assertion), and ER § 4.4.2.1.1.2 at 224-27 to the extent its excursion-control conclusions rest on that design.

CONTENTION [SC-2]: UNVERIFIED INTEGRITY OF LEGACY/HISTORIC EXPLORATION BOREHOLES

Contention: The application fails to provide reasonable assurance of production-zone confinement because it relies merely on surveyed borehole locations and after-the-fact corrective plugging — undertaking to locate and plug legacy exploration holes only "[i]f during operational testing individual holes become suspect" — rather than relying on pre-operational verification of the plugging and integrity of the extensive legacy/historic exploration drilling that penetrates the confining units, contrary to 10 C.F.R. Part 40, Appendix A, Criteria 5B(2) and 7, and NUREG-1569 § 2.7.

A. Brief Explanation of the Basis (§ 2.309(f)(1)(ii))

The COP states that NuFuels "has exploration drill hole survey locations for every exploration hole at each of the three CUP properties" and that "[i]f during operational testing individual holes become suspect, they can be found because their locations are surveyed and mapped, and corrective action (plugging) will be performed." COP § 8.4-8.4.1 at COP-83-84. The record of historical drilling is extensive: the ER identifies multiple exploration campaigns and pilot projects from the 1970s and 1980s within and near the project areas, 195 registered groundwater rights of which 154 are recorded as plugged and abandoned, and additional unregistered wells. ER § 3.4.3.2.2 at 109-10. A reactive approach presumes that the excursion monitoring network will detect what unplugged or failed boreholes transmit — a presumption that is circular where the adequacy of that network is itself in dispute (Contention SC-1) and that leaves vertical pathways through the confining units unverified at the time the license would issue. Abitz Declaration at ¶¶

¶¶ 39–44 (borehole integrity verification practice and the inadequacy of using only the location-mapping to identify historic boreholes); ¶¶ 42–43) (verification methodology).

B. Scope of the Proceeding (§ 2.309(f)(1)(iii))

This contention relates to a core safety subject matter within the scope of the renewal proceeding.

C. Materiality (§ 2.309(f)(1)(iv))

Confinement integrity is a predicate of the Criterion 5B(2) seepage-control and Criterion 7 monitoring findings and of the reasonable-assurance determination; unverified penetrations of the confining units defeat both. RAI-7 independently identifies the same concern, asking whether the applicant is aware of "any mine features, abandoned boreholes, wells, or other subsurface penetrations" not identified in the FEIS, COP, license record, or ER, and whether such penetrations could act as vertical or lateral migration pathways. ML26191A309.

D. Supporting Facts and Expert Opinion (§ 2.309(f)(1)(v))

COP § 8.4-8.4.1 at COP-83-84; ER § 3.4.3.2.2 at 109-10; Abitz Declaration at ¶¶ ¶¶ 39–44 (borehole integrity verification practice and the inadequacy of using only the location-mapping to identify historic boreholes); ¶¶ 42–43 (verification methodology).

E. Genuine Dispute With Specific References (§ 2.309(f)(1)(vi))

The State specifically controverts COP § 8.4-8.4.1 at COP-83-84 and the confinement conclusions of COP § 8.2 and ER § 4.4.2.1.1.2 at 224-27 to the extent they rest on reactive borehole identification.

CONTENTION [SC-3]: INADEQUATE FINANCIAL ASSURANCE

Contention: The application fails to demonstrate compliance with 10 C.F.R. Part 40, Appendix A, Criterion 9 because it contains no current decommissioning and aquifer restoration cost estimate — stating only that NRC approved revised Restoration Action Plans in 2011 and that annual surety updates will be submitted. It also fails to comply because the surety framework it references omits identifiable cost categories, including the contractually required NNCERCLA remediation of Church Rock Section 17 and the costs of 11e.(2) byproduct disposal under an agreement that does not yet exist, in violation of Criterion 9 and 10 C.F.R. § 40.9.

A. Brief Explanation of the Basis (§ 2.309(f)(1)(ii))

The ER's entire financial assurance discussion is three sentences: NuFuels "has provided a plan for adequate financial assurance"; "NRC approved revised [Restoration Action Plans] for each of the project areas in 2011"; and NuFuels "will submit annual financial assurance updates." ER § 2.1.3.8 at 38. No current cost estimate, surety amount, or cost basis appears anywhere in the application. Criterion 9 requires that the licensee maintain financial surety adequate to cover the

full costs of decommissioning and groundwater restoration, based on cost estimates kept current — an obligation the application defers rather than demonstrates for a 20-year authorization. The omissions are consequential: the 2012 Agreement obligates the licensee to complete NNCERCLA remediation of Section 17 before Section 8 operations (*see* Contention EC-8), a cost category that could not have appeared in RAPs approved in 2011; the application concedes that the required 11e.(2) byproduct disposal agreement for the project's radioactive wastes will be executed only "[p]rior to beginning active ISR operation," ER § 2.1.3.7.3.1 at 37-38, leaving disposal pricing unknowable; and the Class I disposal wells on which the applicant's liquid waste strategy depends are unpermitted, ER Table 1.3-1 at 16. Abitz Declaration ¶¶ 45-48 (industry restoration cost experience relative to HRI-era estimates).

B. Scope of the Proceeding (§ 2.309(f)(1)(iii))

Criterion 9 compliance is a required element of the licensing basis for the renewal and squarely within scope. The contention challenges the application's demonstration, not the annual-update license condition.

C. Materiality (§ 2.309(f)(1)(iv))

Financial assurance is the guarantee that restoration and decommissioning occur even if the licensee cannot perform, and its adequacy is among the findings the renewal requires. A 20-year authorization premised on 15-year-old approved cost figures, with identified uncovered categories, cannot support that finding.

D. Supporting Facts and Expert Opinion (§ 2.309(f)(1)(v))

ER § 2.1.3.8 at 38; ER § 2.1.3.7.3.1 at 37-38; ER Table 1.3-1 at 16-17; 2012 Agreement ¶ 2 (Exhibit 3); Abitz Declaration ¶¶ 45-48 (industry restoration cost experience relative to HRI-era estimates).

E. Genuine Dispute With Specific References (§ 2.309(f)(1)(vi))

The State specifically controverts ER § 2.1.3.8 at 38 and identifies the omission of the current cost estimates and coverage demonstration Criterion 9 and § 40.9 require, including the omitted remediation and disposal cost categories identified above.

IV. CONCLUSION

For the reasons set forth above, the State of New Mexico respectfully requests that the Board grant this petition, admit the State as a party to this proceeding, admit the State's contentions, and conduct such further proceedings as are warranted. In the alternative, the State requests recognition of its participation as an interested governmental body under 10 C.F.R. § 2.315(c).

Respectfully submitted this 27th day of July, 2026:

FOR THE STATE OF NEW MEXICO
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/s/ Esther C. Jamison
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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of NUFUELS, INC. (Crownpoint Uranium Project In-Situ Recovery Facility)	Docket No. 40-8968-LR; NRC-2026-1882 License No. SUA-1580 July 27, 2026

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing Petition to Intervene and Request for Hearing in the captioned proceeding were served via the Electronic Information Exchange ("EIE") on the 27th day of July, 2026, which to the best of my knowledge resulted in transmittal of same to those on the EIE Service List for the captioned proceeding.

/s/ Esther C. Jamison
Esther C. Jamison

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of NUFUELS, INC. (Crownpoint Uranium Project In-Situ Recovery Facility)	Docket No. 40-8968-LR; NRC-2026-1882 License No. SUA-1580 July 27, 2026

Exhibit 1

Letter from Kelsey Rader, Water Protection Deputy Division Director,
New Mexico Environment Department,
to NRC Office of the Secretary (July 21, 2026)

Docusign Envelope ID: CFE5BA87-CB18-8602-8085-00C1B16FDD96

MICHELLE LUJAN GRISHAM
GOVERNOR

JAMES C. KENNEY
CABINET SECRETARY

Electronic Delivery

July 21, 2026

Nuclear Regulatory Commission (NRC)
Office of the Secretary
Hearing.Docket@nrc.gov

Re: New Mexico Environment Department Response to the Nuclear Regulatory Commission Federal Register Regarding the NuFuels Inc. Crownpoint Uranium Project In-Situ Recovery Facility License Renewal Application

Dear NRC Office of the Secretary,

The New Mexico Environment Department (NMED) submits this letter in response to the Nuclear Regulatory Commission (NRC) Docket No. 040-08968 titled *NuFuels Inc.; Crownpoint Uranium Project In-Situ Recovery* (ISR) *Facility; License Renewal Application* as part of the Federal Register Vol. 91, No. 101 dated May 27, 2026. This letter reaffirms NMED's involvement in the permitting for the Church Rock Section 8 ISR Project, which will be developed as part of the larger Crownpoint Uranium Project (CUP) In-Situ Recovery Facility, currently subject to a timely renewal of NRC Source Materials License (SUA-1580).

Under the Water Quality Act (WQA) and the Department of Environment Act, NMED is the primary regulatory agency responsible for groundwater protection in the State of New Mexico. Beginning in 2023, NuFuels Inc. expressed interest in pursuing in-situ uranium recovery in New Mexico. Section 8 was under previous ownership with Hydro Resources Inc. (HRI) and was issued discharge permit (DP) 558. This permit did not allow for the operation of an ISR operation; it only allowed for activities that the Permittee would perform to characterize baseline groundwater quality within the Mine area and to demonstrate its ability to restore groundwater quality. NMED terminated DP-558 in 2015 due to inactivity. NMED has advised NuFuels Inc. to submit a new discharge permit application for this activity.

NMED received a new groundwater discharge permit application from NuFuels Inc. for the Church Rock Section 8 ISR Project on February 12, 2026, and assigned the application and associated site DP-2004 after deeming the application administratively complete. On June 4, 2026, NMED sent NuFuels Inc. a letter providing instructions and materials needed to complete the public notice requirements prior to any technical review of DP-2004. As of the date of this letter, NMED has not yet initiated its technical review of the application and estimates it is one to three years until a decision on the permit is possible. NMED will require the applicant to restore groundwater quality to established baseline levels as a condition of a discharge permit approval.

As part of its license renewal application package submitted to the NRC, NuFuels Inc. references the 1989 EPA aquifer exemption and notes that an amendment to the exemption may be necessary. NMED intends to contest

EXHIBIT 1

Docusign Envelope ID: CFE5BA87-CB18-8602-8085-00C1B16FDD96

this aquifer exemption and will request that EPA revoke the previously approved exemption based on the significant changes in the environmental and regulatory conditions that have occurred since the exemption was approved. NMED's reasons for contesting include:

1) All groundwater is protectable under the State of New Mexico Regulations, which has a Total Dissolved Solids concentration of 10,000 milligrams per liter (mg/l) or less.
2) At the time EPA approved the aquifer exemption, NMED did not have primacy over the Underground Injection Control (UIC). NMED obtained this in 2001 and added sections 20.6.2.5000 to 5399 to the Rules and Regulations under the WQA. Under these rules, aquifer exemptions are not permitted.
    a. EPA recognizes the primacy of the State of New Mexico in UIC today. If a new operation similar to this was proposed, EPA would refer the applicant to the State of New Mexico to obtain an aquifer exemption and adhere to the state's rules and regulations.
3) At the time EPA approved the aquifer exemption the applicable uranium groundwater quality standard was 5 mg/L. In 2004, the New Mexico Water Quality Control Commission (NMWQCC) lowered the groundwater quality standard for uranium to 0.03 mg/L.
4) As a practice, NMED does not support any EPA action that results in the waiving of any standards, Applicable or Relevant and Appropriate or administrative standards. The aquifer exemption in place would waive New Mexico groundwater standards.
5) NMED (formerly the Environmental Improvement Division) notified EPA by letter dated June 8, 1988, of a discharge permit application from HRI and that temporary aquifer designation will be required. The aquifer exemption approved in 1989 is supported by requirements in DP-558. NMED terminated DP-558. Therefore, at a minimum, the conditions in the aquifer exemption need to be significantly modified.
6) ISR of uranium has never been approved nor implemented in New Mexico. As the primary regulatory authority tasked with the protection of human health and the environment, the decision on the viability of this process needs to be with the State.

The issuance of an NRC license does not supersede the State of New Mexico's independent authority to regulate groundwater quality. Accordingly, the Church Rock Section 8 ISR Project must obtain an NMED discharge permit before ISR operations may commence.

Docusign Envelope ID: CFE5BA87-CB18-8602-8085-00C1B16FDD96

NRC Office of the Secretary
Response to NRC Federal Register
July 21, 2026

For any concerns or questions, please contact Corey Dimond of my staff at (505) 795-4216 or by email at corey.dimond@env.nm.gov or mecs.general@env.nm.gov with any questions.

Sincerely,

DocuSigned by:
Kelsey Rader
F33223A51C29434...

Kelsey Rader, Water Protection Deputy Division Director
New Mexico Environment Department

KR:cd

ECC: Jonas Armstrong, Division Director, WPD (jonas.armstrong2@env.nm.gov)
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MECS Reading File

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of NUFUELS, INC. (Crownpoint Uranium Project In-Situ Recovery Facility)	Docket No. 40-8968-LR; NRC-2026-1882 License No. SUA-1580 July 27, 2026

Exhibit 2

Declaration of Dr. Richard J. Abitz, PhD

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of NUFUELS, INC. (Crownpoint Uranium Project In-Situ Recovery Facility)	Docket No. 40-8968-LR; NRC-2026-1882 License No. SUA-1580 July 27, 2026

Declaration of Richard J. Abitz, PhD

1. My name is Richard J. Abitz. The opinions expressed herein are my own and are held to a reasonable degree of scientific certainty. My education and experience as a professional geologist are described in my vita, attached to this declaration as **Exhibit A**. I have a Doctor of Philosophy in geology (emphasis in geochemistry) from the University of New Mexico and over 38 years of experience as an environmental consultant dealing with problems associated with the solubility and mobility of hazardous and radioactive elements in the sediment/water environment of major aquifers. My declaration is given in support of several of the contentions raised by the State of New Mexico's petition (EC-1, EC-2, EC-7, SC-1, SC-2, and SC-3) on the inability of the mining industry to restore groundwater quality in an aquifer that has been subject to uranium ISR mining. I have reviewed the petition and the facts and opinions attributed to me are my own.

2. I presently serve as the principal scientist/owner of Geochemical Consulting Services, LLC (GCS). GCS provides technical services to government contractors and confidential clients in the areas of document preparation and review associated with groundwater restoration and human health risk and dose assessments.

3. Previously, I served as the director of the Environmental Restoration Group for the Idaho Closure Project contract at the Department of Energy's (DOE) Idaho National Laboratory Site. My experience also includes years of work with uranium contamination in the surface environment and groundwater at the DOE Portsmouth and Fernald Sites. At the Portsmouth Site, which produced low enriched uranium for commercial power plants and highly enriched uranium for weapon components and Navy ship reactors, I served as the senior scientist responsible for dose calculations to assess the risk to human health associated with exposure to

uranium and other radionuclide isotopes under present conditions and a future condition where all contamination was buried in an on-site disposal facility. At the Fernald Site, which processed uranium ores and yellow cake for over 30 years (1952 to 1985) to produce uranium metal for plutonium production reactors at the Hanford and Savannah River Sites, I managed the Environmental Services Division for the Fernald Closure Project. Our division was responsible for 1) installation and development of monitoring, extraction, and injection wells, 2) air, water and soil sampling activities, 3) analytical facilities for the measurement of radionuclides, metals, and organic compounds in soil and water samples, 4) *in situ* measurements of ^{226}Ra, ^{232}Th, and ^{238}U activities in soil using sodium-iodide and high-purity germanium detectors, 5) data verification, validation, and reporting, and 6) data analysis, modeling, and reporting.

4. In addition to my experience at DOE sites, I have served as a subcontractor to the Environmental Protection Agency (EPA) in support of groundwater remediation at the Homestake uranium tailings site north of Milan, NM. For the Navajo Nation (New Mexico), Sioux Nation (Nebraska), Goliad County Groundwater Conservation District (Texas), and National Resources Defense Council, I served as a technical expert and witness to evaluate the impact of proposed uranium in situ recovery (ISR) mining on community groundwater supplies. I have also provided technical input to the Wyoming Powder River Basin Resource Council's comment responses to EPA's proposed Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings (40 CFR 192).

5. Based on my geology education and environmental work experience, I have extensive theoretical, laboratory, and field knowledge on 1) the solid forms of uranium in aquifer sediments; 2) the chemical reactions that are responsible for the mobilization and/or adsorption/precipitation of uranium from groundwater systems; 3) well fields and ion-exchange operations associated with recovering groundwater that is contaminated with uranium; and 4) the rocks and structures of the southern San Juan Basin, which includes the Westwater Canyon Member of the Morrison Formation that hosts the Church Rock and Crownpoint uranium deposits.

6. In preparation of this declaration, I have reviewed the following documents:

Cameco Resources, 2018, Application for Alternate Concentration Limits, Mine Unit 1, Smith Ranch-Highland Uranium Project, SUA-1548 (ML18065A233 (application letter)); (ML18186A337 (Appendix C)), (ML18186A328)

Gallegos, T.J. et al, 2015, Persistent U(IV) and U(VI) following In Situ Recovery (ISR) Mining of a Sandstone Uranium Deposit, Wyoming, USA, Applied Geochemistry, v. 63

Gallegos, T.J. et al, 2022, A Methodology to Assess the Historical Environmental Footprint of In Situ Recovery (ISR) of Uranium: A Demonstration in the Goliad Sand in the Texas Coastal Plain, USA, Minerals, v.12

Hall, S., 2009, Groundwater Restoration at Uranium ISR mines , South Texas Coastal Plain; USGS open-file report 2009-1143

Lasaga, A.C., 1981, Rate Laws of Chemical Reactions, in Kinetics of Geochemical Processes, American Mineralogical Society, v.8

Lucas, S.G., 2005, Declaration of Dr. Spencer G. Lucas in the Matter of Hydro Resources, Inc., (Docket No. 40-8968-ML, ASLBP No. 95-706-01-ML)

NRC, 1988, In consideration of the release of Source Material License SUA-1479 for Mobil Oil Corporation, Crownpoint, Section 9 In Situ Pilot Test Project, McKinley County, New Mexico (Docket No. 40-8911, ACN 8802230437) (ML071350629)

NRC, 2009, Data on Groundwater Impacts at Existing ISR Facilities (ML091770385)

NRC, 2012, Technical Evaluation Report, Review of Christensen Ranch Mine Units 2-6 Groundwater Restoration Report, Willow Creek Project, SUA-1341 (ML12174A048)

NRC, 2025, Request for Supplemental Information for the Acceptance Review of the License Renewal Application, NuFuels, Inc. Crownpoint Uranium Project, McKinley County, New Mexico (SUA-1580 NRC Docket No. 040-08968) (ML25080A079)

NRC, 2026, Request for Additional Information to Support the Review of the NuFuels License Renewal Application for the Crownpoint Uranium Project, McKinley County, New Mexico (SUA-1580 NRC Docket No. 040-08968) (ML26191A309)

NuFuels, Inc. and Los Alamos National Laboratory, 2023, Project Narrative File: Laboratory-Scale In-Situ Recovery and Restoration Demonstration Using Uranium Deposit Core Materials, DE-FOA-0002491 (ML23304A114)

NuFuels, 2025, Environmental Report for the Crownpoint Uranium Project, NRC License SUA-1580 Renewal, McKinley County, New Mexico (ML25022A292)

NuFuels, 2025, Consolidated Operations Plan for the Crownpoint Uranium Project, NRC License SUA-1580 Renewal, McKinley County, New Mexico (ML25022A293)

NuFuels, 2025, Response to Request for Supplemental Information for the Acceptance Review of the License Renewal Application, NuFuels, Inc. Crownpoint Uranium Project, McKinley County, New Mexico (SUA-1580 NRC Docket No. 040-08968) (ML25182A330, ML25350C307)

NUREG-1508, 1997, Final Environmental Impact Statement to Construct and Operate the Crownpoint Uranium Solution Mining Project, Crownpoint, New Mexico

NUREG-1569, 2003, Standard Review Plan for In Situ Leach Uranium Extraction License Operations

Overpeck, J.T. and B. Udall, 2020, Climate change and the aridification of North America, Proceedings of the National Academy of Sciences, V. 117, no. 22

Power Resources, Inc. (Cameco Resources), 2009, Alternate Schedule for Groundwater Restoration, Smith Ranch-Highland Uranium Project, SUA-1548 (ML092330083)

Reimus, P. et al, 2022, Restoration Insights Gained from a Field Deployment of Dithionite and Acetate at a Uranium In Situ Recovery Mine, Minerals, v. 12

Ruiz, O. et al, 2019, Groundwater Restoration Following ISR Mining of Uranium, Applied Geochemistry, v. 109

Saunders, J.L. et al, 2016, Potential Aquifer Vulnerability in Regions Down Gradient from Uranium In Situ Recovery Sites, Journal of Environmental Management, v. 183

United Nuclear Corporation (UNC), 2004, Northeast Church Rock Site Mine Closeout Plan

Uranium One Americas, 2016 Semi-Annual Report, Willow Creek Project, SUA-1341 (ML17090A256)

U.S. Department of Energy (DOE), 2026, Sixth Five-Year Review Report for the Fernald Preserve, Ohio

U.S. Government Accountability Office (GAO), 2012, Uranium Mining: Opportunities Exist to Improve Oversight of Financial Assurances, GAO-12-544

USGS, National Ground-Water Monitoring Network, monitoring location 35423510817073, https://www.usgs.gov/apps/ngwmn/index.jsp (accessed July 25, 2026)

Wallace, M.G., 2005, Declaration of Michael G. Wallace in the Matter of Hydro Resources, Inc., (Docket No. 40-8968-ML, ASLBP No. 95-706-01-ML)

Wentworth, D.W. et al, 1980, Geology of Crownpoint Section 29 Uranium Deposit, McKinley County, New Mexico, New Mexico Bureau of Mines and Mineral Resources, Memoir 38

CONTENTION [EC-1]: FAILURE TO DEMONSTRATE THE FEASIBILITY OF AQUIFER RESTORATION

Contention: The Environmental Report fails to demonstrate that groundwater in the Westwater Canyon aquifer production zones can be restored to the primary restoration standards of 10 C.F.R. Part 40, Appendix A, Criterion 5B(5) (background or MCL), fails to analyze the environmental impacts that will result if restoration achieves only the ER's fallback secondary standards, derives its restoration baseline from non-representative ore-zone sampling without analyzing the consequences, and rests its groundwater impact conclusions on a 2009 NRC staff

data compilation that does not reflect seventeen years of subsequent commercial ISR restoration experience, in violation of 10 C.F.R. §§ 51.45(b), (c), and (e) and 51.60(a).

7. Overall, the Environmental Report (ER) is misleading by implying contamination will be contained by excursion monitoring (ER § 2.1.3.4.3 at 27) and groundwater restoration will achieve pre-mining contaminant concentrations in groundwater (ER § 2.1.3.5 at 30), while NRC concedes that excursions and unsuccessful restoration will likely result in uranium contamination at the Crownpoint drinking water wells and NuFuels must replace the drinking water wells prior to mining in Unit 1 and Crownpoint (ER § 4.4.2.1.1.3 at 227).

8. Excursion monitoring will be unsuccessful because the spacing of wells in the monitoring ring (generally 400 ft apart) will not detect contaminated groundwater flowing along preferential pathways that are commonly no wider than 100 ft (Lucas, 2005, para 45 & 46). Fluvial sediments that comprise the Westwater Canyon aquifer are interlayered, lithified clay, silt, sand, and gravel deposits that form preferential flow paths associated with paleochannels (Lucas, 2005, para 40 - 51). The complex stratigraphy and preferential flow paths in the Westwater Canyon aquifer were acknowledged by NRC during the post-restoration analysis to understand the failure to restore the Westwater Canyon aquifer after the Mobil Section 9 in situ pilot test: "The analysis has been extremely difficult due to the hydrogeology of the site, complexities imposed by operational difficulties encountered during leaching and restoration, a high degree of natural variability and the small area of previous mining activity." NRC, 1988, p. 2.

9. The proposed CUP schedule for operations and aquifer restoration at Church Rock Section 8 (6 and 4.6 yrs), Church Rock Section 17 (4 and 2.5 yrs), Unit 1 (6 and 5.4 yrs), and Crownpoint (14 and 13.3 yrs) (ER § 2.1.3.1 at 18) does not consider the timeframes used for the Mobile Section 9 pilot test performed in the Westwater Canyon aquifer one mile north of Unit 1 between 1979 and 1986. At the Mobil Section 9 pilot test site, one year of mining was followed by six years of restoration activities [groundwater sweep, lime treatment, reverse osmosis, and injection of sodium sulfide (Na_2S) and hydrogen sulfide (H_2S)] that failed to restore the groundwater to pre-mining contaminant levels (NRC, 1988, Appendices B & C). Given that the aquifer restoration at the Mobil Section 9 site was 6 times longer than production time and failed to restore the aquifer, the proposed CUP restoration schedule is unsupported where the restoration times are less than the production times. The never-performed commercial-scale

restoration demonstration at Church Rock Section 8 is necessary to support the questionable restoration times in the CUP schedule, and it is technically material to the feasibility of restoration at the other proposed project areas.

10. The ER proposes to restore the aquifer in the noted timeframes using the standard methods of groundwater sweep, reverse osmosis, and brine concentration (ER § 2.1.3.5.2 at 31-32). A search of the ER for other groundwater restoration techniques to support the short timeframe of the restoration schedules was conducted, though nothing was found. However, it was noted in the ER that an estimated 9 pore volumes will be needed to achieve aquifer restoration in each area (ER § 4.4.2.1.1.3 at 227). This estimate has no valid basis for restoration of the Westwater Canyon aquifer because the Mobil Section 9 in situ pilot test used over 16 pore volumes of groundwater and did not restore the aquifer to baseline values (NRC, 1988, Appendix C).

11. Therefore, it is inconsistent that NuFuels states without basis that: "During operation and aquifer restoration, modern techniques will make it highly unlikely that any adjacent, non-exempt portions of this aquifer will be affected adversely." ER § 2.2.3.5.1 at 49.

12. The ER simply proposes standard groundwater restoration methods and shorter restoration times, relative to production time, to achieve groundwater restoration; despite the historic record of restoration failure at the Mobil Section 9 pilot site north of their proposed Unit 1 operations. Restoration methods proposed in the ER will not succeed in restoring the aquifer to pre-mining levels because groundwater sweep treats only the preferential flow paths in the aquifer, as noted above, and contamination remains in less permeable portions of the contaminated aquifer.

13. Since the conclusion of the initial litigation on the CUP project, there have been multiple investigations and reports on the restoration of groundwater at uranium ISR sites. The USGS compiled data on south Texas uranium ISR sites and showed that none of the ISR operations were able to restore the mined aquifer to pre-mining baseline[1] levels for all

[1] The uranium ISR industry does not establish statistically valid baseline values. Baseline values for the ISR industry are established using samples taken from the ore zone after well drilling and development. The ore zone occupies an insignificant volume in most aquifers, and a representative sample should be collected through the entire sand thickness as opposed to the biased samples collected from the disturbed ore zone. Well drilling mechanically grinds the ore into finer particles and introduces oxygen-rich water, and well development introduces

contaminants (Hall 2009). In 2009, the NRC reviewed aquifer restoration at the only three licensed facilities that were operating (two in WY and 1 in NE) and found that none of the well fields at those ISR sites were able to restore all contaminants to baseline levels (NRC 2009).

14. At the Smith Ranch-Highland Uranium Project in Wyoming (NRC Source Material License SUA-1548), the operator requested an alternate schedule for completion of groundwater restoration in August 2009, reporting that restoration at seven wellfields would be delayed for several years, in one case to 2025 (ML092330083). At Mine Unit 1 of that same project, uranium production ran from 1997 to September 2006; restoration activities then continued until stability sampling began in September 2014 — a restoration period nearly as long as the production period — and post-restoration concentrations of uranium, arsenic, selenium, and radium-226 still exceeded restoration target values and primary drinking water standards in stability monitoring samples (ML18065A233 (application letter); ML18186A337 (App. C)). In February 2018, the operator applied for alternate concentration limits for Mine Unit 1 of 51 mg/L for dissolved uranium, 0.18 mg/L for dissolved arsenic, and 0.2 mg/L for dissolved selenium (ML18065A233; ML18186A328) — a requested uranium limit approximately 1,700 times the 0.03 mg/L standard of 20.6.2.3103(A)(1)(p) NMAC — while acknowledging that dissolved uranium in portions of the mine unit will increase in concentration over a time scale of centuries (ML18186A328 at i).

15. At the Christensen Ranch mine units of the Willow Creek project in Wyoming (SUA-1341), restoration of Mine Units 2 through 6 concluded in 2005 and the restoration report was submitted in April 2008; on October 23, 2012, the NRC staff's Technical Evaluation Report set out its basis for denying restoration completeness (ML12174A048 (NRC Staff TER); ML17090A256 (operator semi-annual report).

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atmospheric oxygen during airlift procedures to clear the well of sediment. An increase in surface area of the ore particles and higher levels of oxygen increase the dissolution rate of the uranium ore minerals and contaminate the water within the ore zone. Prior to drilling, the uranium ore minerals are in a reduced zone of the aquifer and their low solubility under reducing conditions is the basis for the ore deposit. Uranium groundwater concentrations in an undisturbed, reduced ore zone do not exceed the EPA MCL for uranium (0.03 mg/L). Therefore, true baseline for uranium and other contaminants in the aquifer would be much lower than the invalid baseline established by the ISR industry, which implies restoration of groundwater to true baseline is impossible after the aquifer is contaminated by uranium ISR mining.

16. These are the same facilities whose data comprise the 2009 NRC compilation on which the ER relies (NRC 2009): the record for these sites after 2009 — the schedule extensions, a denial of restoration completeness, and alternate concentration limit requests at multiples of the groundwater standards — demonstrates that the restoration difficulties the NRC documented in 2009 were not subsequently overcome, and that the ER's reliance on the 2009 compilation understates rather than overstates the restoration record as it now stands.

17. Other studies have looked at geochemical, mineralogical, and microbiological techniques to improve the efficacy of aquifer restoration (see Ruiz et al, 2019, and references therein). Though the techniques did provide short-term decreases in some of the contaminants, none of the methods deployed resulted in long-term compliance with pre-mining baseline values. Investigators cited the inability to treat all areas of the aquifer due to the complexity of fluvial stratigraphy and preferential flow paths (Saunders et al, 2016), the remobilization of uranium when injected reducing agents dissolved iron-oxide phases that contained adsorbed uranium (Gallegos et al, 2015; Reimus et al, 2022), and the overall absence of production records for processing reagents to assess the overall destruction of the reducing capacity of the aquifer by decades of lixiviant injection (Gallegos et al, 2022). Therefore, aquifer restoration techniques implemented after uranium ISR mining are unlikely to permanently reverse the contamination created by mining in groundwater aquifers and long-term treatment and monitoring will be needed to protect human health and the environment.

18. NuFuels recognized that restoring groundwater to pre-mining contaminant levels would require decades of treatment and monitoring due to the inability to remove uranium from less permeable areas of the aquifer. In 2023, NuFuels entered into a joint agreement with Los Alamos National Laboratory to perform lixiviant leaching tests on crushed uranium ore placed in leach columns (NuFuels/LANL, 2023, ML23304A114). The scope of work outlined on page 20 of the referenced work plan was "to demonstrate the capacity of an optimized groundwater restoration strategy that relies on active sweep operations using reverse osmosis treatment, injection of amendments, and natural attenuation to restore geochemical conditions in situ to background levels at uranium recovery operations." A test report of the results for this work could not be found.

19. Long-term treatment and monitoring are also driven by the improper derivation of baseline values for contaminants in groundwater. The ER's restoration program states "If the

restoration activities are unable to achieve the background or MCL, whichever is greater, the secondary goal will be to return water quality to the maximum concentration limits as specified in Section 20.6.2.3103 NMAC or 40 CFR § 141.62 or 143.3." (ER § 2.1.3.5.1 at 30). The corresponding secondary-goal MCL concentrations under both federal and state requirements are arsenic 0.01, selenium 0.05, uranium 0.03 mg/L, radium 5 pCi/L. 20.6.2.3103(A)(1)(b), (m), (p), and (q) NMAC; 40 C.F.R. §§ 141.62(b)(10), (16), 141.66(b), (e). Because the ISR industry commonly uses non-representative samples to establish baseline (i.e., background) values for contaminants in groundwater, the baseline is likely to be greater than MCLs (secondary goal) for many contaminants.

20. For the Crownpoint and Church Rock areas, the ER reports pre-mining mean values (presumably baseline) in Tables 3.4-7 (Crownpoint), 3.4-8 (Unit 1), and 3.4-14 (Church Rock Sections 8 and 17) for the proposed ISR mining areas. The radium-226 mean value exceeds the MCL in all areas, and the uranium mean value exceeds the MCL at Unit 1 and Church Rock. As I explain in footnote 1, it is common in the ISR industry to develop baseline in the production area by screening the well only through the ore zone, which has been disturbed and oxidized by well drilling and development. The dissolution of reduced uranium ore minerals is enhanced when mechanical grinding of the drilling increases the surface area of the uranium ore minerals and oxygen is introduced by both the drilling fluid and air lifting to develop the well. Lasaga has shown that a higher surface area and increased oxygen activity will increase the rate of mineral dissolution (Lasaga, 1981).

21. The degradation of groundwater by the use of non-representative samples to establish values for baseline concentrations used in restoration targets ensures contamination will remain in the aquifer far above true baseline values. The impact will be contamination of groundwater outside the monitor-well ring, including wells completed in the Westwater Canyon member that supply drinking water to people in and around Crownpoint. An exempted-aquifer boundary is a regulatory line; it is not a hydraulic barrier.

22. In my opinion, when restoration cannot achieve true pre-mining conditions — whether because of the restoration-technology limitations described above or because baseline values were derived from non-representative samples — the realistic physical endpoints are limited to three. First, restoration operations continue beyond the scheduled timeframes: additional pore volumes of groundwater sweep and reverse osmosis treatment, with the

associated consumptive water use, brine generation and disposal demand, and energy consumption extending over a horizon the ER does not estimate. The Mobil Section 9 pilot test, in which six years of restoration followed one year of mining without achieving pre-mining values (NRC, 1988, Appendices B & C**)**, indicates that time frame can substantially exceed the ER's estimates. Second, active restoration is discontinued and the site transitions to long-term monitoring and treatment. My direct experience managing groundwater programs at the DOE Fernald and Idaho sites is that where aquifer contamination cannot be fully removed, monitoring and treatment continues for decades: the uranium plume at the DOE Fernald site has required monitoring and treatment for over 30 years at an annual cost of 2 to 3 million dollars (DOE, 2026, Table 3). Although those are not ISR wellfield restorations, the cost and duration driver — indefinite operation of extraction, treatment, and monitoring systems for a groundwater plume that cannot be eliminated — is the same. Third, contamination above pre-mining values remains in place in the aquifer, continues to migrate along the preferential pathways described above and requires institutional controls on groundwater use for an indefinite period. Each of these endpoints has environmental impacts of its own — water consumption, waste streams, disposal capacity, land use, and constrained use of a drinking-water aquifer — that are distinct from, and additional to, the impacts of the restoration program that the ER describes.

23. I searched the ER for any analysis of the consequences of using non-representative samples for establishing baseline values in groundwater, and for any analysis of the three endpoints described in ¶22 above, including the groundwater impact analysis (ER § 4.4.2 at 223–28), the cumulative impacts discussion (ER § 2.2.3.5 at 48–49), the mitigation discussion (ER § 5.4.2 at 277-282), and the restoration program description (ER § 2.1.3.5 at 30–32). No such analysis appears. The ER's impact conclusions assume that restoration succeeds; the ER contains no assessment of the exempted-zone boundary, the adjacent non-exempt portions of the Westwater Canyon aquifer, or the Crownpoint-area drinking water wells under a scenario where groundwater restoration fails and monitoring and treatment must be performed for decades.

24. In summary, the ER's approach to groundwater restoration and impact analysis is inadequate because it assumes successful aquifer restoration despite the failure at the Mobil Section 9 pilot site, it does not assess the complexity of the stratigraphy and preferred flow paths within the Westwater Canyon aquifer, and it lacks a discussion on how to collect representative

samples for establishing true baseline values. Moreover, the restoration strategy invokes using the higher value of a non-representative background concentration over the drinking water MCL (ER § 2.1.3.5.1 at 30). Lastly, the ER mitigation strategy to replace Crownpoint drinking-water wells before production begins (ER § 4.4.2.1.1.3 at 227) indicates that the NRC and NuFuels know they cannot restore the aquifer, and a large volume of drinking water will be lost to the people in and around Crownpoint.

CONTENTION [EC-2]: RELIANCE ON OUTDATED HYDROGEOLOGIC DATA AND MODELING

Contention: The Environmental Report's description of the affected groundwater environment and its groundwater impact analyses rest on water level data ending in 2011, water quality characterization largely predating the 1997 FEIS, and drawdown modeling performed in 1993 and baseline studies from 1996 — deficiencies the NRC staff itself identified in its acceptance review and that the applicant has conceded it cannot yet cure for lack of site access — in violation of 10 C.F.R. §§ 51.45(b), 51.60(a), and 40.9.

25. The hydrogeology and water-quality data presented for Crownpoint and Unit 1 (ER § 3.4.3.2) and Church Rock Sections 8 and 17 (ER § 3.4.3.3) are outdated and cannot be relied upon to sustain the decision to move forward on reissuing the license for the CUP project. NRC recognized this and requested additional information from NuFuels (NRC 2026), though NuFuels has not responded as of the date of this narrative.

26. Specifically, NUREG-1569, Section 2.7.1 requires the following:

A description of site hydrogeology, including (i) identification of aquifer and aquitard formations that may affect or be affected by the in situ leach operations; (ii) a description of aquifer properties, including material type, formation thickness, effective porosity, hydraulic conductivity, and hydraulic gradient; (iii) estimated thickness and lateral extent of aquitards, and other information relative to the control and prevention of excursions; and (iv) data to support conclusions concerning the local ground-water flow system, based on well borings, core samples, water-level measurements, pumping tests, laboratory tests, soil surveys, and other methods.

27. Of prime concern is item (iv), data to support conclusions. The ER (ER § 3.4.3.2 & 3.4.3.3) points to Sections 3.3.1.2, 3.3.1.3, and 3.3.1.4 of the CUP FEIS for hydrological and groundwater quality data that were collected decades ago. Extreme drought and aridification conditions remain in the southwest (Overpeck and Udall, 2020) and aquifer data presented in the CUP FEIS, and referenced in the ER, do not reflect present conditions in the aquifer. Groundwater levels have likely decreased in wells installed at Unit 1 and Crownpoint[2], and pump tests and drawdown models based on higher groundwater levels decades ago will not provide a reasonable picture of present conditions. General assumptions on Figure 3-10 of the CUP FEIS for thickness (201 ft) and porosity (0.251) of the Westwater Canyon member do not reflect the fluvial stratigraphy of sandstone, siltstone, and mudstone discussed in the ER (ER § 3.3.1.2).

28. Water-quality data collected decades ago from wells installed for the Unit 1 and Crownpoint areas will not represent present water quality because those wells were sampled only from the narrow ore zone after drilling and development disturbed and oxidized the ore zone (see ¶ 20 above). A representative groundwater sample should be obtained from a well screened across the entire thickness of the sandstone layer impacted by ISR lixiviant. As mining was not performed at Unit 1 and Crownpoint, it is likely that reducing conditions have returned to the wells previously sampled for the baseline values and redox sensitive elements (e.g., arsenic, selenium, and uranium) are likely to be at lower concentrations. This is important because it means the decades-old baseline values overstate current concentrations, which matters because baseline drives both restoration targets and excursion upper control limits. The NRC understands that redox sensitive elements will have lower concentrations under reducing conditions because they noted in a 2009 ISR data review that restoration "is not attainable for other constituents, in particular, the major and trace cations with solubilities most susceptible to the oxidation state of the aquifer water (i.e., iron, manganese, arsenic, selenium, uranium, vanadium and radium-226)" (NRC 2009).

[2] At USGS monitoring location 35423510817073, approximately 5 mi northwest of Crownpoint, the water level in an unidentified aquifer above the Westwater Canyon aquifer decreased over 100 ft between 2009 and the present (www.usgs.gov/apps/ngwmn/index.jsp), indicating it is probable that water in the Westwater Canyon aquifer also decreased.

29. As noted in the ER, drawdown models used to assess the impact to the Crownpoint wells were run in 1993 and 1996 (ER § 4.4.2.1.1.2.1 at 224), and the NRC requested a review and update of the hydrogeological data (NRC 2026) because:

"Current and projected water-use conditions may differ from the conditions assumed in older modeling, including changes associated with municipal pumping, replacement municipal wells, and the Navajo-Gallup Water Supply Project."

30. An update to the models should also address the preferred flow paths along paleochannels in the Westwater Canyon aquifer. A significant deficiency in the old models was the assumption that the Westwater Canyon aquifer resided in homogenous, isotropic sandstone over a vast areal extent (Wallace, 2005, para 13). An electric well log from an exploration hole drilled in the Crownpoint area showed five different sand layers ranging from 20 feet to 75 feet in thickness, separated by four mudstone/siltstone layers measuring 10 to 20 feet in thickness (Wentworth et al., 1980). This picture of the Westwater Canyon aquifer residing in a series of ancient, buried streambeds with sandstones stacked one on top of another and separated by discontinuous mudstones and siltstones is consistent with the geological mapping done by Lucas on outcrops near the Unit 1 and Crownpoint sites (Lucas, 2005, para 25 & 26). Drawdown and transport modeling using the realistic, heterogenous model with preferred flow paths showed greater drawdown in the Crownpoint wells and uranium contamination reaching the wells in under 10 years (Wallace, 2005, para 20).

31. Therefore, data collection efforts should be executed to obtain current static water levels across the monitoring wells, updated potentiometric surface maps and interpretation; current pumping records for the municipal and NTUA wells and the Navajo-Gallup Water Supply Project's effects on regional use; re-sampling of baseline wells under protocols that account for collecting representative samples under reducing conditions from the entire sand thickness of individual or coalesced sandstone units; updated aquifer testing; and revised drawdown/transport modeling based on the heterogeneous structure of the fluvial deposits (i.e., paleochannels). The opinions stated above apply equally to the ER's municipal-well impact analysis challenged in EC-7.

32. With respect to EC-7, the ER's conclusion that impacts to the Crownpoint municipal water supply will be SMALL is not supported by any current analysis. The conclusion rests on drawdown and transport modeling from 1993 and 1996 that does not account for current

municipal pumping, the replacement municipal wells, or the Navajo-Gallup Water Supply Project, and the heterogeneous-aquifer modeling described in ¶ 30 indicates greater drawdown and shorter contaminant travel times to the town wells than the homogeneous models the ER relies on. The commitment to replace the town's water supply wells under License Condition 10.27 is a mitigation measure adopted because of the recognized risk of contamination; it is not an analysis of the impacts of the proposed operations on the municipal supply. A supportable impact conclusion would require the updated characterization elements identified in ¶ 31.

CONTENTION [SC-1]: INADEQUATE CHARACTERIZATION OF, AND MONITORING DESIGN FOR, THE OLD CHURCH ROCK MINE WORKINGS

Contention: The application fails to demonstrate adequate confinement and excursion detection at the Church Rock project areas because it does not adequately characterize the flooded underground workings of the Old Church Rock Mine and because its monitoring design treats those workings as though they were discrete wells — placing monitor wells "no more than 122 m [400 ft]" from the workings and asserting without analysis that excursion detection "will not be influenced by the presence of the mine workings" — contrary to the requirements of 10 C.F.R. Part 40, Appendix A, Criteria 5B(2) and 7, and without the reasonable assurance the Atomic Energy Act requires.

33. The COP is inconsistent in the presentation of information on the intersection of the Dakota aquifer with the old Church Rock mine workings. NuFuels states that they have records of all mine workings (COP 8.7.3.1) and the mine workings could be open to the Dakota sandstone (COP 8.3), though to the best of NuFuels knowledge they do not extend up into the Dakota sandstone (COP 8.3). If NuFuels has all records for the mine workings, there should be detailed stratigraphic columns for mine shafts and drifts that lead down to the workings that will definitively establish where the Dakota sandstone intersects the flooded mine workings. This information is not included in the COP or ER, and it is important because NuFuels proposes one monitoring well per 8 acres in the Dakota sandstone (COP 8.1.1), presumably on the basis of no communication between the mine workings and Dakota sandstone.

34. The basis for treating mine workings as a well field (COP 6.3.1) is absent in the COP. Flooded mine workings are equivalent to a channel of contaminated water as opposed to

contaminated pore fluid in a well field. Flooded mine workings can intersect preferred flow paths in the aquifer sands they intersect and flow past monitor wells spaced 400 feet from the edge of flooded workings and 400 feet apart (COP 6.3.1). As noted above in the response to contention EC-1, excursion monitoring will be unsuccessful because the spacing of monitoring wells (400 ft apart) will not detect contaminated groundwater flowing along preferential pathways that are commonly no wider than 100 ft (Lucas, 2005, para 45 & 46). NuFuels argues that the angle formed by lines drawn from mine workings to the two nearest monitor wells will not be greater than 75 degrees and this means that the detection of horizontal excursion will not be influenced by the presence of mine workings (COP 6.3.1), which is puzzling and completely without basis.

35. The COP strategy for excursion detection will be ineffective because a monitor well spacing of 400 ft will miss preferential flow paths in contact with the flooded mine workings. Migration of mining fluids along east/southeast-trending paleochannels from the Church Rock NECR-2 shaft to the old Church Rock Mill well (approximately 1,000 feet) occurred between October 1984 and April 1992 (after mine closure). Arsenic, selenium, and uranium values increased as follows: As, <0.001 to 0.004 mg/L; Se, <0.001 to 0.218 mg/L; and U, 0.065 to 0.565 mg/L (UNC, 2004, Table 1). This observation shows that contaminated mining fluids in the Church Rock mine workings have migrated into the Westwater Canyon aquifer along paleochannels that are generally no wider than 100 feet (Lucas, 2005, para 45). Therefore, monitoring wells spaced 400 feet apart will inevitably miss excursions moving along narrow preferential flow paths.

36. NuFuels proposes to screen a monitor well through the full thickness of the stacked ore horizons when there is no substantial confining layer between the sands (COP 6.3.1). In this geometry, an excursion from a single ore horizon will be diluted by the water from other ore horizons that are not experiencing an excursion. In other words, an excursion will be contaminating the non-exempt portion of the aquifer yet not be detected due to dilution of the excursion from ore horizons that contain non-contaminated groundwater. Wells with multiple sampling ports at distinct aquifer horizons are commonly used to monitor groundwater plumes at DOE sites, and this technology is the appropriate application when discrete levels of the aquifer need to be monitored for contaminant migration.

37. Of interest is that NuFuels states that confining layers between the Westwater Canyon sands are not continuous (COP 6.3.1), implying lixiviant will be present throughout the Westwater Canyon member. As Lucas has pointed out, the Westwater Canyon member is unconfined in areas of Section 17: Dakota sandstone is above and Cow Springs sandstone is below the Westwater Canyon member (Lucas, 2005, para 20). Thus, the lixiviant has a direct vertical path to reach an overlying and underlying aquifer.

38. At the Church Rock units, the COPs proposed monitoring in the Dakota sandstone is one well per 8 acres (COP 8.1.1), which equates to essentially no monitoring, because one well per 8 acres has a very low probability of detecting an excursion when the lixiviant is in direct contact with the overlying sand. For the underlying Cow Springs sandstone, the COP states there is little site-specific data on the Recapture; but, because it is a suitable aquitard elsewhere, no monitoring of the Cow Springs aquifer is necessary (COP 8.2). The omission of monitoring in the Cow Springs sandstone fails to protect a groundwater aquifer in direct contact with lixiviant.

CONTENTION [SC-2]: UNVERIFIED INTEGRITY OF LEGACY/HISTORIC EXPLORATION BOREHOLES

Contention: The application fails to provide reasonable assurance of production-zone confinement because it relies on surveyed borehole locations and after-the-fact corrective plugging — undertaking to locate and plug legacy exploration holes only "[i]f during operational testing individual holes become suspect" — rather than pre-operational verification of the plugging and integrity of the extensive legacy/historic exploration drilling that penetrates the confining units, contrary to 10 C.F.R. Part 40, Appendix A, Criteria 5B(2) and 7, and NUREG-1569 § 2.7.

39. The NRC standard review plan for ISR license applications, NUREG-1569, describes the information about historic drill holes and wells needed to make the confinement findings required by 10 C.F.R. Part 40, Appendix A. Three provisions are relevant here. First, the site-characterization acceptance criteria require, for each abandoned well or drill hole within the site area and within 0.25 mile of the wellfield boundary, its location and depth, type of use, condition of closing, the plugging procedure used, and its date of completion (NUREG-1569 § 2.2.3(1)(e) at 2-5). Second, the geology acceptance criteria require that, to allow evaluation of connections between the mineralized zone and underground sources of drinking water, the

applicant provide plugging and abandonment records from state, federal, and local sources — and, for all wells that *cannot* be documented in this manner, "evidence that action has been undertaken to properly plug and abandon" (NUREG-1569 § 2.6.3(5) at 2-18). The structure of this criterion is significant: it offers two paths, documentation or demonstrated plugging action, and it contemplates that one or the other be satisfied for every known penetration before the staff makes its findings — not after operations begin. Third, the hydrology acceptance criteria require characterization of the thickness, lateral extent, and vertical hydraulic conductivity of the confining units, supported by pumping tests investigating vertical confinement between the production zone and the overlying and underlying aquifers (NUREG-1569 §§ 2.7.1(3), 2.7.2(3), 2.7.3(3) at 2-20 to 2-24). Unverified plugging of boreholes that penetrate a confining unit are uncharacterized vertical pathways that do not meet the NRC confinement demonstration, and NuFuels has not accounted for this in the COP.

40. The record of historic penetrations at the CUP project areas is extensive. The ER identifies multiple exploration and pilot-project drilling campaigns from the 1970s and 1980s within and near the project areas, 195 registered groundwater rights of which 154 are *recorded as* plugged and abandoned, and additional unregistered wells (ER § 3.4.3.2.2 at 109-10). Additionally, the ER notes the early phase (1958-1962) of exploration in the Church Rock area was essentially unregulated and activities related to borehole plugging, as well as the location of the boreholes, are unknown (ER 3.13.1 at 201).

41. Against this record, the COP's approach is to survey coordinates for exploration holes, with plugging performed only "[i]f during operational testing individual holes become suspect" (COP § 8.4-8.4.1 at COP-83-84). This approach satisfies neither requirement of NUREG-1569 § 2.6.3(5) for a substantial portion of the borehole inventory and fails to address the consequences of penetrations made by early exploration boreholes. A notation that a well is "recorded as" plugged is a record of a filing, not of the condition of closing or the plugging procedure used and provides no basis to assess whether the plug remains competent decades later. For the unregistered wells and early exploration boreholes the ER acknowledges, the records path is unavailable by definition, and the COP identifies no plugging action taken or planned for them before operations. The COP's approach thus provides, at the time the license would issue, neither documented integrity nor demonstrated plugging for the penetrations of the confining units on which its confinement conclusions depend.

42. In my opinion, reasonable assurance of production-zone confinement requires pre-operational field verification of the legacy penetrations, not surveyed locations plus after-the-fact correction. Standard verification practice, which I have implemented and overseen at DOE environmental restoration sites, proceeds from the inventory to the field: locating each mapped penetration on the ground and reconciling the field inventory against the records to identify unmapped holes. If unmapped holes are discovered, the surface condition of each located penetration is inspected to determine the potential actions for an open or closed hole (e.g., evaluating the integrity of the hole using methods such as downhole geophysical or camera logging, re-drilling of the plug interval, and plugging/replugging as necessary).

43. Because inspecting every historic exploration hole is generally impracticable, a random sample of the surveyed population in each project area, distinguished by drilling campaign and vintage, is the appropriate means of estimating the frequency of bridging — a plugged interval overlying an open borehole — and other plug failures in the population as a whole. This is particularly important at Church Rock Sections 8 and 17, where the Westwater Canyon member may be in direct contact with the overlying Dakota and underlying Cow Springs sandstones (Lucas, 2005, para 20), so that a single failed penetration provides a direct vertical pathway between the production zone and an unexempted aquifer. Statements on the formation clays self-sealing the boreholes (COP 8.4.1.2) are not applicable when there are no confining layers between the Westwater Canyon member and overlying Dakota sandstone and underlying Cow Springs sandstone. Verification of borehole integrity should be performed before operations because the alternative — detection of borehole leakage through the monitoring network after lixiviant injection begins — presumes the adequacy of the monitoring network whose design is at issue, and remediates contamination rather than preventing it.

44. The speculation of detecting communication with open boreholes via pump tests and pressure changes in overlying and underlying aquifer monitor wells (COP 8.4.1.2) is presumptuous at best. NuFuels has presented no basis to support how one well per 4 acres in overlying aquifers (COP 8.1) will detect leakage from a borehole in a preferential flow path that does not intersect the well. For the underlying Cow Springs aquifer in the Church Rock area, NuFuels states it will not monitor the Cow Springs aquifer because the Recapture member is an adequate aquitard (COP 8.2) between the Westwater Canyon member and the Cow Springs

aquifer. This omission ignores the geology in Section 17 discussed by Lucas, where the Westwater Canyon member directly overlies the Cow Springs aquifer (Lucas, 2005, para 20).

CONTENTION [SC-3]: INADEQUATE FINANCIAL ASSURANCE

Contention: The application fails to demonstrate compliance with 10 C.F.R. Part 40, Appendix A, Criterion 9 because it contains no current decommissioning and aquifer restoration cost estimate — stating only that NRC approved revised Restoration Action Plans in 2011 and that annual surety updates will be submitted — and because the surety framework it references omits identifiable cost categories, including the contractually required NNCERCLA remediation of Church Rock Section 17 and the costs of 11e.(2) byproduct disposal under an agreement that does not yet exist, in violation of Criterion 9 and 10 C.F.R. § 40.9.

45. NuFuels has not developed a current aquifer restoration cost estimate that considers the failed restoration record of the ISR industry, as discussed under my response to EC-1. Specifically, NuFuels states that aquifer restoration costs for each area will be based on 9 pore volumes to achieve restoration goals (COP 10.4.3 at 171), yet the Mobil Section 9 pilot test did not achieve restoration after processing 16 pore volumes over a period of 6 years. My experience with restoring contaminated groundwater at DOE sites (in Ohio, South Carolina, and Idaho) over the past 35 years shows that long-term monitoring and treatment costs for financial assurance needs to consider monitoring and treatment for decades, rather than years.

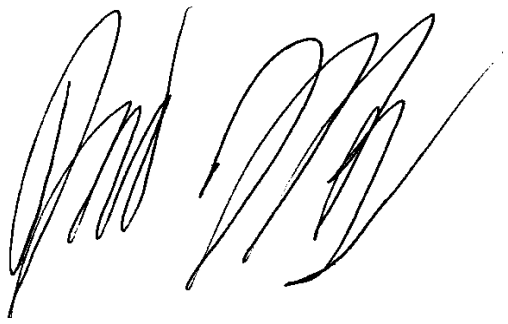
46. Of relevant interest to uranium ISR sites are the DOE records for the Fernald, Ohio site, which show present aquifer restoration and monitoring for the uranium groundwater plume (at roughly $2-3 million per year) has not restored the aquifer to baseline values after 30 years (DOE 2026, Section 2.4, Table 3). Similar restoration and treatment time frames have been encountered for a TCE plume at the DOE Idaho site at a rough cost of $1.5 million a year. Though TCE is not a contaminant of concern to ISR mining, the relevant point is any contaminant that exists in an aquifer at levels far above baseline values will take decades of monitoring and treatment to restore the aquifer.

47. In the GAO review of financial assurance accounts for the Smith Ranch and Highland operations in Wyoming (GAO-12-544 at 27), they report that required financial assurance increased from June 2011 through December 2011 -- from about $80 million to $120 million for the Smith Ranch and from about $80 million to $93 million for Highland. NRC and

Wyoming officials indicated the increase was largely due to the increase in extraction and treatment when the number of pore volumes to treat increased from 6 to 9. These 2011 values suggest that about $40 million dollars was needed to process an additional 3 pore volumes at Smith Ranch. As aquifer restoration is commonly extended at ISR sites due to the inability to restore the contaminants to pre-mining levels, contingency costs for extending the monitoring and restoration should be considered in financial assurance estimates.

48. The COP fails to address NRC's Criterion 9 requirements for developing a cost estimate for financial assurance and is also silent on costs for the Section 17 NNCERCLA remediation. In addition to the absence of these costs, additional costs for the extension of monitoring and restoration beyond the proposed schedule for remediation, along with additional 11e.(2) disposal costs during the extended restoration period, are material to the evaluation of adequate financial assurance.

I declare under penalty of perjury that the foregoing is true and correct. Executed on July 27, 2026.



Richard J. Abitz, PhD

Exhibit A – Curriculum Vitae

Richard J. Abitz

Professional Qualifications

Dr. Abitz is a geologist and former project director with over thirty-eight years of experience in the environmental services sector of private and government organizations. His broad experience encompasses project and personnel management, analysis of chemical and radiological data, modeling of soil/water systems and radioactive waste streams with experimental methods and computer codes, human-health risk assessment, dose assessment for low-level waste disposal facilities, and development and review of scientific studies and regulatory documents for CERCLA, RCRA, and uranium in situ recovery (ISR) sites.

Presently, Dr. Abitz performs limited consulting services for private and government clients as the principal scientist and owner of Geochemical Consulting Services, LLC. These tasks include technical reviews and preparation of documents for environmental response actions at CERCLA/RCRA sites and evaluation of NRC license applications for uranium ISR from potable groundwater aquifers.

Prior to June 2024, Dr Abitz served as the director of the Environmental Restoration (ER) organization at the DOE Idaho National Laboratory (INL) site. In this capacity, he was responsible for mentoring personnel and the safe and efficient management of ER contract work scope for the Idaho Cleanup Project (ICP). The ER organization is tasked with groundwater monitoring, risk assessment, and reporting requirements associated with CERCLA remedial actions executed across the INL site.

In his previous position as senior technical consultant for the Environmental Remediation project at the DOE Portsmouth site, he was responsible for preparation and oversight of documents associated with CERCLA and DOE Order 435.1 regulations; and was the control account manager for the analytical laboratory and soil projects. Dr. Abitz prepared the DOE Order 435.1 Performance Assessment and Composite Analysis for the Portsmouth on-site waste disposal facility (OSWDF) and was a key player in obtaining the Disposal Authorization from DOE HQ for the design and construction of the OSWDF.

Dr Abitz also has extensive experience at other DOE sites, including Savannah River, Fernald, Los Alamos National Laboratory, and the Waste Isolation Pilot Plant. Dr. Abitz served with the Savannah River National Laboratory as the DOE EM13 program manager for the development of technologies to support the in situ decommissioning of highly contaminated nuclear facilities. At the Fernald site, Dr. Abitz managed the Environmental Services Group and was a senior consultant to the DOE Technology Development Program. For Los Alamos National Laboratory, he developed waste analysis and radioactive material management plans for transuranic and low-level mixed wastes generated, treated, and stored on site. At the Waste Isolation Pilot Plant, Dr. Abitz directed geochemical studies that evaluated the composition and origin of brine and saline groundwater in the repository and overlying strata.

In addition to work performed at DOE sites, Dr. Abitz served as an EPA subcontractor supporting groundwater remediation at the Homestake uranium tailings site north of Milan, NM. For the Navajo Nation (New Mexico), Sioux Nation (Nebraska), Goliad County Groundwater Conservation District (Texas), and National Resources Defense Council he served as a technical expert and witness to evaluate the impact of proposed uranium ISR mining on community groundwater supplies. Dr. Abitz also provided technical input to the Powder River Basin Resource Council's comment responses to EPA's proposed Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings (40 CFR 192).

Education and Training

B.A., Geology, Humboldt State University, Arcata, California; 1981

M.S., Geology, University of New Mexico, Albuquerque; 1984

Ph.D., Geology, University of New Mexico, Albuquerque; 1989

EQ3/6 Geochemical Modeling Short Course, San Diego, CA; 1991

Environmental Risk Assessment Communication and Application Workshop,

INEL Oversight Program, Boise, ID; 1992

OSHA HAZWOP Training, 29 CFR 1910.120 (40 hours), 1994

RAD WORKER II Training, 10 CFR 835, 1998

Practical Models Supporting Remediation of Chlorinated Solvents, Aiken, SC; 2010

Experience and Background

2024 – present ***Principal Scientist/Owner, Geochemical Consulting Services, LLC***

- Dr. Abitz performs data analysis and review of technical and regulatory documents prepared by consultants performing environmental work for the DOE, EPA, and NRC. He also prepares documents and declarations for confidential clients on the adequacy of environmental and groundwater protection data within NRC license applications for in situ recovery of uranium.

2020 – 2024 ***Director, Environmental Restoration, Idaho Cleanup Project, INL site***

- Dr. Abitz led a group of scientists, engineers, and technicians tasked with executing monitoring tasks, risk assessments, and reports for CERCLA remedial actions across the INL site. Under his leadership, the ER group maintained their perfect safety record (no first aids or recordables), achieved cumulative cost and schedule performance indices greater than one, and received recognition from Region 10 EPA on the "high quality, well organized" Five-Year Review of CERCLA Response Actions at the INL Site (February 2021).

2016 - 2020 ***Deputy Director, Environmental Restoration, Idaho Cleanup Project, INL site***

- Dr. Abitz led communication and planning activities to integrate ER work scope with organizations performing work across the INL site. He performed personnel reviews and management assessments to ensure planned and executed work was in accordance with ISMS principles and established work controls; observe safety behavior of personnel performing the work; and identify project risks and opportunities. His responsibilities also included succession planning, execution of Fluor's remediation process optimization to reduce ER project costs, and oversight of technical documents.

Dr Abitz played a key role in earning the maximum fee (~$1M) for early completion of the design for an evapotranspiration barrier at the INL subsurface disposal area.

2012 - 2016

Senior Technical Consultant, Fluor Government Group, DOE Portsmouth site

- Dr. Abitz was responsible for preparation, review, and oversight of DOE, CERCLA, and RCRA work plans and reports in the areas of groundwater quality, statistical development of background values for groundwater and soil, groundwater and soil geochemistry, human-health risk and radiation dose assessment (performance assessment for DOE Order 435.1), and hazard analysis for disposition of enriched uranium. Dr. Abitz also served as a control account manager and was responsible for monthly cost and schedule variance reports and the assessment of project risks and opportunities.

2009 - 2012

Program Manager, Savannah River National Laboratory, Aiken, SC

- Dr. Abitz was the primary SRNL lead for the DOE EM13 program to investigate and develop technologies for the *in situ* decommissioning of highly contaminated nuclear facilities and he supported EM13 technology development for the remediation of contaminated groundwater and soil across the DOE complex. He served on a DOE EM international team as a technical member to participate in workshops on the decommissioning and dismantlement of nuclear facilities in the United Kingdom and Japan.

2006 - 2009

Principal Scientist/Owner, Geochemical Consulting Services, LLC

Expert Scientist for the Navajo & Sioux Nations, Coloradoans Against Resource Destruction, the Goliad County Groundwater Conservation District, South Texans Opposing Pollution, and the National Resources Defense Council, Inc.

- Dr. Abitz provided legal testimony, technical review, geochemical modeling, and geological analysis of permit applications associated with proposed uranium ISR mines in the vicinity of Church Rock and Crownpoint, New Mexico (Navajo Nation), the Centennial Project in Weld County, Colorado, the Goliad Project near Goliad, Texas; expansion of ISR operations at the Crow Butte mine in Nebraska and the Ross Project in Crook County, Wyoming; and restoration operations at the Kingsville Dome ISR mine in Texas.

Technical Support to the Savannah River Site; Aiken, SC

- Dr. Abitz supported the contract transition team for Savannah River Nuclear Solutions (SRNS). He reviewed RCRA and CERCLA groundwater remedial systems (electrical resistivity heating with soil vapor extraction, chemical reactive barrier, and tritium phytoremediation), project controls and management systems used to status the remediation work, and regulatory milestones to assess the status of the Area Closure Projects and SRNS readiness to perform the work scope. He also supported SRNS in the preparation of the ARRA baseline estimate.

NESHAP Report for the Fernald Preserve; Cincinnati, OH

- For the Fernald Annual Sitewide Environmental Report, Dr. Abitz prepared the chapters on air emissions (particulate with uranium, thorium and radium isotopes, and radon), population dose, and the NESHAP annual report.

Risk Assessment for the Fernald Closure Project (FCP); Cincinnati, OH

- Tasked with the responsibility to develop and author the Interim Residual Risk Assessment for the Fernald site, Dr. Abitz evaluated the risk to visitors and workers exposed to residual contaminants in air, soil, and surface-water pathways. Risk scenarios showed the incremental lifetime cancer risk to the receptors was below the recommended EPA maximum of 0.0001.

2003 – 2006

Manager of the Environmental Services Group and Senior Consultant, Fluor Fernald, Inc.; Cincinnati, OH

- As the manager for the Environmental Services Group (ESG), Dr. Abitz oversaw the work of over 50 scientists and technicians. Personnel in the ESG performed water, soil and air sampling and monitoring; analytical services for radionuclides, metals and organic compounds; data verification, validation, reduction and reporting; and *in situ* soil activity measurements for ^{226}Ra, ^{232}Th, and ^{238}U via the site's real-time instrument measurement program (RTIMP).

- As the site geochemist, he prepared an estimate of the curie inventory for the on-site disposal facility (OSDF) to provide baseline values to DOE legacy management. The scope of this task was to develop the estimate using information from the Ohio Field Office Recycled Uranium Project Report, OU3 and OU5 RI/FS documents, the Fernald Dosimetry Reconstruction Project, remedial operation records, historic records, active monitoring data, interviews with technical personnel who supervised plant operations from the early 1960's through production shut down in 1989, and analytical results on soil placed in the OSDF.

- Dr. Abitz also served as senior consultant to the Fernald Closure Project on the long-term remediation strategy for the Great Miami aquifer. In this capacity, he coordinated laboratory and microscopy studies on the form of uranium present on aquifer sediments. The laboratory and microscopy studies examined the amount of uranium that is fixed to the sediments via chemical adsorption and overgrowth rims versus the mobile fraction that is readily desorbed from the aquifer matrix. These key studies identified and addressed the kinetics of uranium reactions to determine the time constraints associated with achieving the EPA's drinking water standard for uranium.

Environmental Science Manager/Project Manager/Senior Consultant, Fluor Fernald, Inc.; Cincinnati, OH.

1998 - 2003

- In his role as environmental science manager, Dr. Abitz directed the Real Time Instrument Measurement Program (RTIMP), which provided in situ soil activity measurements for ^{226}Ra, ^{232}Th, and ^{238}U in live time. This program supported excavation and D&D work by scanning soil to confirm U contamination was below the waste acceptance criteria for Fernald's OSDF. Prior to the release of remediated land, the RTIMP performs in situ activity measurements to demonstrate that the soil is below the final remediation levels established for ^{226}Ra, ^{232}Th, and ^{238}U.

- As a project manager, Dr. Abitz managed a remediation budget of six million dollars for Title I/II design work for D&D of structures and removal of all contaminated soil and subgrade structures within the former Production Area. Dr. Abitz led a team of engineers and scientists who integrated the remedial design with regulatory issues, sampling and analysis plans, waste management operations, demolition and construction activities, health and safety issues, radiological controls, and quality assurance protocols.

- Dr. Abitz served as a senior consultant to the DOE Technology Development Program, where he performed technical oversight of several university studies dealing with the mobilization of uranium and its removal from groundwater. He was active with laboratory investigations that examine the distribution of uranium phases in soil and aquifer sediment, the leaching behavior of the uranium phases, the treatment of contaminated soil with phosphate, and the geochemical properties of aggregate materials used to construct liners in the OSDF. The research established important baseline information on the distribution of uranium in the aquifer and in OSDF construction materials, while treatment studies evaluated the effectiveness of phosphate in reducing the solubility and mobility of uranium in the disposal cell.

- As a participant in research that evaluated the natural attenuation of uranium using a combination of passive inorganic and organic systems, Dr. Abitz was involved with work groups from industry, academia, and DOE laboratories. The inorganic systems that were investigated include rip-rap channels constructed with rock containing iron oxyhydroxide phases (e.g., goethite and hematite) or phosphate minerals (e.g., apatite) and flow-through cells using zero-valent iron. Organic systems that showed potential promise include sulfate-reducing bacteria, microbial mats, lichen, and phytoextraction.

Principal Scientist/Owner, Geochemical Consulting Services, LLC; Albuquerque, NM.

1997 - 1998

- Dr. Abitz performed confidential work for the Navajo Nation on the proposed *in situ* uranium leach mines in the vicinity of Church Rock and Crownpoint, New Mexico.

- At FEMP, he evaluated the efficiency of selected alternatives for soil and groundwater remediation, including soil washing and *in situ* uranium leaching methods. This effort involved supervising the technical team, assisting in the negotiation of clean-up levels with DOE and EPA, developing soil-treatment protocols, and interacting with public-interest groups.

- At the WIPP site, Dr. Abitz supported the operating contractor in the area of brine geochemistry. He was responsible for oversight of laboratory analyses and QA/QC, data analysis, and geochemical interpretation of the composition and origin of fluids in the vicinity of underground operations. Dr. Abitz also evaluated the solubility of transuranic elements in sodium-chloride brine and in brine containing organic-complexing agents such as citric acid, oxalic acid, and EDTA.

1994 - 1997 ***Project Manager/Senior Staff Consultant, IT Corporation; Albuquerque, NM***.

- Conducted a rerun of the chemical compatibility analysis of contact-handled and remote-handled TRU waste forms and container materials, as reported in the 1995 WIPP Transuranic Waste Baseline Inventory Report (WTWBIR), for Appendix C1 of the WIPP RCRA Part B permit. Chemicals reported by the generator sites were classified into reaction groups as defined by the U.S. Environmental Protection Agency (EPA) document "A Method for Determining the Compatibility of Hazardous Wastes."
- Assisted in evaluating the geochemical performance of backfill configurations proposed in the WIPP Compliance Certification Application. Modeled the interaction of Salado Formation brine with MgO placed in the backfill to estimate the quantity of MgO required to buffer the pH of the indigenous brine between 8 and 9, which minimizes the solubility of uranium and TRU nuclides relative to lower pH values found in Salado Formation brine.
- Project scientist responsible for developing the background radionuclide groundwater report for Norton AFB, which provided a robust scientific model to explain the presence of elevated levels of naturally-occurring uranium. The task required coordination of scientific and support staff to produce a principal milestone document that was delivered to the client one week ahead of schedule.
- Project manager and scientist on the FEMP OU5 FS task to evaluate aqueous reactions of metal and radionuclide complexes in proposed injection zones of the Great Miami Aquifer. Responsible for oversight of technical tasks, budget, schedule, and final technical report.
- Project scientist tasked with supporting the Navajo EPA on the evaluation of groundwater contamination from the mill tailings at the UNC Church Rock, New Mexico site. Radionuclide, sulfate, and nitrate concentrations were evaluated to discriminate between contamination originating from the mill tailings and natural salts present in the valley alluvium.
- Project manager and scientist on the FEMP OU3 RI/FS task to evaluate the release of radionuclides and metals from the proposed on-site disposal facility. Responsible for oversight of technical tasks, budget, schedule, and final technical report.

1988 - 1994 ***Senior Geochemist, IT Corporation; Albuquerque, NM***

- Developed database for the WIPP EATF to evaluate the solubility of thorium, uranium, neptunium, plutonium, and americium in sodium-chloride brine and in the presence of organic complexing agents, such as EDTA and citric acid.
- Authored white paper for OU 5 RI/FS at FEMP that discusses leaching, dissolution, and desorption processes for uranium and progeny, adsorption and aqueous complexation of the uranium and progeny with subsurface soils and groundwater, and secondary uranium phases that may form in the soils.
- Conducted site-surveys and interviewed LANL personnel on radiation practices associated with the handling, packaging, labeling, storage, transport, and disposal of transuranic materials. Information was used to support safe operation of LANL RMMAs and account for radioactive materials that enter and exit the area.
- Developed waste analysis plans for transuranic and low-level mixed wastes present at LANL. This activity was conducted to complete RCRA Part B permits and ensure compliance to DOE orders for all LANL mixed waste facilities.
- Managed and had technical oversight on geochemical program associated with FEMP RI/FS. Program tasks include the characterization of soil mineralogy by polarized light microscopy and x-ray diffraction studies, design and implementation of laboratory tests to characterize the composition of leachate derived from cemented and vitrified waste samples, evaluation of contaminant adsorption ratios, data validation, and tracking of labor and material costs.
- Designed laboratory experiments for FEMP RI/FS to measure adsorption ratios of radionuclides and metals and implemented ANSI/ANS-16.1 leach tests to evaluate the performance of cemented waste forms. Results were used to evaluate the most effective alternative for immobilizing radionuclides and metals from a near surface disposal cell.
- Led waste characterization program on INEL calcined solid waste. Responsible for evaluating radiochemistry data on uranium fission products and transuranic elements in aqueous and calcined waste forms. Assisted in the development of EPA approved sampling and analytical plans to support a draft no migration variance petition for the radioactive calcined waste stored at the ICPP.

Professional Affiliations

Geological Society of America

New Mexico Geological Society

Presentations & Publications

Abitz, R., Farfan, E., and Coleman, R., 2011, Gamma-Ray Mapping and Waste Segregation, *presentation at the Japan Ministry of Economy, Trade and Industry/USDOE workshop on Remediation at the Fukushima Daiichi Nuclear Plant Site*, Tokyo, Japan, October 26 and 27.

Abitz, R.J., 2011, Pre- and Post-Mining Water Quality at ISL Sites: Emphasis on Kingsville Dome, *presentation to representatives from EPA Region VI, Kleberg County, Texas and South Texans Opposing Pollution*, Victoria, Texas, August 5.

Abitz, R.J., 2010, Decommissioning Highly Contaminated Nuclear Facilities at the Department of Energy Sites, *presentation at the United Kingdom Decommissioning and Waste Management Conference*, Penrith, Cumbria, UK, November 2, 3 and 4.

Abitz, R. J. and B. Darling, 2010, Anthropogenic Induced Redox Disequilibrium in Uranium Ore Zones, *Geological Society of America Abstracts w/Programs*, Vol. 42.

Abitz, R.J., 2010, Technical Basis for Approval of Decon Gel as an Acceptable Component of WIPP Waste Streams, *Proceedings of the American Nuclear Society Meeting on Decommissioning, Decontamination and Reutilization*, Idaho Falls, ID.

Abitz, R.J., A.J. Duncan, M.C. Kane, R.A. Dewberry and J.K. Santos, 2010, Planning for the Decontamination of the Plutonium Fuel Form (PuFF) Facility, Savannah River Site, South Carolina, Paper 10095, Waste Management Symposia, Phoenix, AZ.

Abitz, R.J., M. Denham, and C. Eddy-Dilek, 2009, Technical Evaluation of Soil Remediation Alternatives at the Building 812 Operable Unit, Lawrence Livermore National Laboratory, Site 300, SRNL-STI-2009-00514, Savannah River National Laboratory, Aiken, SC.

Abitz, R.J., 2008, The Need for Valid Statistical Protocols to Establish Baseline Groundwater Quality at Uranium ISL Mines, *Geological Society of America Abstracts w/Programs*, Vol. 40.

Abitz, R., R. Danahy, R. Janke, B. McDaniel, and D. Seiller, 2004, "In Situ Gamma Spectrometry Applications at the United States Department of Energy's Fernald Site, Ohio, USA" *Proceedings of the 32nd International Geological Congress*, Florence, Italy.

Abitz, R., 1996, "Novel Use of Geochemical Models in Evaluating Treatment Trains for Radioactive Waste Streams" *Second International Symposium on Extraction and Processing for the Treatment and Minimization of Wastes*, The Minerals, Metals, and Materials Society, pp 167-176, Phoenix, Arizona.

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Deal, D. E., R. J. Abitz, D. S. Belski, J. B. Case, M. E. Crawley, C. A. Givens, P. James-Lipponer, D. J. Milligan, J. Myers, D. W. Powers, and M. A. Valdivia, 1995, "Brine Sampling and Evaluation Program, 1992-1993 Report and Summary of BSEP Data Since

1982," *DOE-WIPP 94-011*, U.S. Department of Energy, WIPP Project Office, Carlsbad, New Mexico.

Abitz, R.J., 1994, "Uranium Specie Optimization in Carbonate Groundwater Prior to Anion Exchange Recovery," *American Chemical Society Book of Abstracts for Emerging Technologies in Hazardous Waste Management VI,* Vol. II, p. 1124.,

Beard, J.S., R.J. Abitz, and G.E. Lofgren, 1993, "Experimental Melting of Crustal Xenoliths from Kilbourne Hole, New Mexico and Implications for Magma Contamination and Genesis," *Contributions to Mineralogy and Petrology,* Vol. 115, pp. 88-102.

Abitz, R. J., and M. Furhmann, 1993, "Adsorption of Radionuclides and Metals Below a Mixed-Waste Disposal Cell: Implications for Risk-Assessment Calculations," *Geological Society of America Abstracts w/Programs*, Vol. 25, No. 6, p. A-185.

Abitz, R. J. and M. Fuhrmann, 1993, "A Case Study Comparing Site-Specific Distribution Coefficients to Selected Literature Distribution Coefficients," *IT Technology Exchange Symposium Proceedings*, Vol.III, Paper 14-3, Scottsdale, Arizona.

Deal, D. E., R. J. Abitz, J. Myers, D. S. Belski, M. L. Martin, D. J. Milligan, R. W. Sobocinski, and P. James-Lipponer, 1993, "Brine Sampling and Evaluation Program, 1991 Report," *DOE-WIPP 93-026*, U.S. Department of Energy, WIPP Project Office, Carlsbad, New Mexico.

Abitz, R. J., 1992, "Decision Support System for Obtaining Distribution Coefficients Used in Fate and Transport Models," *IT Technology Exchange Symposium Proceedings*, Vol.III, Paper 12-2, Scottsdale, Arizona.

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Abitz, R. J., R. W. Sobocinski, and J. Myers, 1991, "Assessing Inorganic Contaminant Release to Groundwater with the EQ3/6 Geochemical Code," *IT Technology Exchange Symposium Proceedings*, Vol. II, Paper 11-2, Phoenix, Arizona.

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of NUFUELS, INC. (Crownpoint Uranium Project In-Situ Recovery Facility)	Docket No. 40-8968-LR; NRC-2026-1882 License No. SUA-1580 July 27, 2026

Exhibit 3

Navajo Nation – Hydo Resources, Inc.
Temporary Access Agreement
July 19, 2012

TEMPORARY
ACCESS
AGREEMENT

This Agreement is entered into this 19th day of July, 2012 between the Navajo Nation, through its Deputy Attorney General, and Hydro Resources, Inc. (HRI) through its President and Chief Executive Officer.

Whereas, HRI owns certain property within the Church Rock Chapter, Navajo Nation, State of New Mexico, commonly referred to as Section 8 consisting of an approximately 174.5- acre tract of the southeast quadrant of Section 8; and

Whereas, the Navajo Nation recently determined and HRI understands that the State of New Mexico right of way connected with State Highway 566 does not intersect with Section 8; and

Whereas on October 12 and 13, 2011 HRI crossed over Navajo trust lands (specifically lands commonly referred to as Sections 17 and 9) for purposes of accessing Section 8; and

Whereas on April 5, 2012 the Navajo Nation Division of Natural Resources issued a Notice of Violation and Order asserting that HRI had committed a Civil Trespass violating 16 N.N.C. §2201 et seq. by crossing Navajo lands for purposes of accessing Section 8 without an appropriate right-of-way; and

Whereas the Navajo Nation Division of Natural Resources additionally assessed a civil penalty in the amount of $50.00 and further Ordered HRI to cease crossing Navajo lands for purposes of accessing Section 8 without applying for and obtaining an appropriate right-of-way, under Navajo law, the general Indian Right-of-Way Act, 25 U.S.C. §§ 323-328 and implementing regulations at 25 C.F.R. Part 169; and

EXHIBIT 3

Whereas the parties are desirous of settling this particular incident of alleged trespass and continuing their negotiations regarding the underlying issues surrounding this particular incident of alleged trespass, the parties hereto agree as follows:

1. By acceptance of this temporary access, HRI consents and submits to the full territorial, legislative, executive and judicial jurisdiction of the Navajo Nation within Navajo Indian country, including but not limited to jurisdiction to impose civil assessments or fines and to enter and enforce judgments for compensatory and punitive damages and equitable relief in connection with all activities conducted by HRI and its agents which have a proximate effect on persons or property within Navajo Indian country. HRI further covenants not to contest or challenge such jurisdiction in any forum on any basis not applicable generally to state jurisdiction, such as, by way of examples and not limitation, on the basis that such jurisdiction is inconsistent with the status of the Navajo Nation as an Indian nation, or that the Navajo Nation is not a government and its courts are not courts of general jurisdiction, or that the Navajo Nation does not possess the power to legislate and regulate for the general health and welfare over all lands, persons and activities within Navajo Indian country.

2. HRI further agrees to complete the remediation of any radioactive contamination now existing on Section 17 or Section 8 ("preexisting contamination") prior to commencing its planned in-situ leach uranium operations on Section 8. The remediation of preexisting contamination on Section 17 will be completed in accordance with the Navajo Nation Comprehensive Response Compensation and Liability Act (NNCERCLA) 4 N.N.C. 2101 *et seq.* under either a negotiated remediation plan, an Administrative Order of Consent or a Unilateral Administrative Order. Any remediation of preexisting contamination deemed necessary by either the New Mexico state or federal governments on Section 8 will be completed in accordance with applicable state and/or federal law.

3. Consistent with paragraph 1 above HRI agrees to pay the Navajo Nation the $50.00 civil penalty assessed for the previously referenced alleged trespass that occurred in October 2011.

4. HRI further agrees not to cross any Navajo trust lands for purposes of accessing Section 8 or other lands owned or leased by HRI except pursuant to any lawful grant consented to by the Navajo Nation and granted by the United States, except as provided by Section 6 below.

5. HRI further agrees to dismiss with prejudice its pending appeal of the above-referenced Notice of Violation and Order before the Navajo Nation Office of Hearings and Appeals in Docket No. OHA-DNR-001-12.

6. The Navajo Nation hereby grants HRI temporary access to cross Navajo Nation trust lands for the limited purpose of accessing Section 8 during the upcoming visit of Nuclear Regulatory Commission representatives as well as for such other activities reasonable and necessary for the NRC's, or HRI's, access to Section 8 in support of permit or license requirements. The parties agree that the purpose of this temporary access is to satisfy administrative permit or license requirements. No construction activities or earth disturbance activities of any type are permitted pursuant to this temporary access agreement. "Temporary" shall mean not to exceed one business day, during which time HRI and its licensed contractors and representatives may access Section 8 via Section 9 or Section 17 without incurring a Notice of Violation and Order under the Navajo Civil Trespass Act. Any temporary access shall require not less than seven (7) business days' notice in writing to the Navajo Nation Department of Justice, identifying the type of activity to be undertaken and the HRI employees or consultants desiring to access Section 8 via Section 9 or Section 17, to the extent such individuals' identities are reasonably known by HRI at the time notice is given.

7. The Navajo Nation hereby releases HRI from any further liability whatsoever in any way relating to the alleged trespass that occurred in October 2011.

THE NAVAJO NATION

By: _____

Its: Deputy Attorney General

HYDRO RESOURCES, INC.

By: _____
Donald C. Ewigleben

Its: President and Chief Executive Officer

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