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September 18, 2019

The Honorable Lawrence A. Kudlow
Assistant to the President for Economic Policy and
Director of the National Economic Council
Co-Chair, U.S. Nuclear Fuel Working Group
The White House
Washington, D.C. 20500

Re: Recommendations for the President's Nuclear Fuel Working Group

Dear Chairman Kudlow:

On behalf of our millions of members and supporters, we submit this letter in response to the recommendations sent to the Nuclear Fuel Working Group (Working Group) from the Nuclear Energy Institute (NEI). If adopted, the recommendations would pose a grave threat to invaluable and irreplaceable sacred lands, waters, and iconic landscapes that Americans deeply cherish. As discussed below, there is no need for the Working Group's recommendations to place these lands in the crosshairs of permanent and unnecessary harm.

In particular, we are vehemently opposed to lifting withdrawals or other measures that have been put in place to protect irreplaceable natural systems and cultural resources on public lands. We also urge the Working Group not to recommend measures that would mandate increased domestic uranium mining and/or artificially inflate prices. Such measures are needless for national and energy security but jeopardize human and environmental health.

Waiving Mining Claim Annual Fees and Lifting Protections from Iconic and Sacred Lands Is Not Necessary for Defense or Energy Purposes.

The supply of uranium for both defense and energy is relatively secure and stable according to experts in this field.¹ For nuclear weapons, the biggest non-fuel related use for uranium, total inventory of Highly Enriched Uranium was 585.6 tons in 2013²—enough to make more than 23,000 nuclear weapons. According to the federal government itself, there is enough excess weapons-grade uranium available to support naval reactor demand in the United States through at least 2060.³

¹ Professor Sharon Squassoni, *Critical Minerals: Why is Uranium on the List?*, Testimony for House Subcommittee on Energy and Minerals Hearing on Uranium Contamination and Criticality, GEORGE WASHINGTON UNIVERSITY ELLIOT SCHOOL OF INTERNATIONAL AFFAIRS (June 25, 2019) available at <https://naturalresources.house.gov/imo/media/doc/4.%20Testimony%20-%20Sharon%20Squassoni%20-%20EMR%20Leg%20Hrg%2006.25.19.pdf>.

² OFFICE OF MGMT. & BUDGET, FACT SHEET: TRANSPARENCY IN THE U.S. HIGHLY ENRICHED URANIUM INVENTORY (Mar. 31, 2016) <https://obamawhitehouse.archives.gov/the-press-office/2016/03/31/fact-sheet-transparency-us-highly-enriched-uranium-inventory> (last visited Sept. 16, 2019).

³ FRANK VON HIPPEL, DECLARING MORE U.S. WEAPON-GRADE URANIUM EXCESS COULD DELAY BY TWO DECADES THE NEED TO BUILD A NEW NAT'L ENRICHMENT PLANT, at p. 4 (Apr. 5, 2018) available at <http://fissilematerials.org/library/fvh18.pdf>.

The U.S. currently imports the majority of the uranium used as fuel for energy generation from allied countries. Specifically, two of the three largest uranium producers in the world, Canada and Australia, are close strategic partners of the U.S.⁴ According to the American Association of Petroleum Geologists, Energy and Minerals Division,⁵ even if uranium supplies to the U.S. from other countries like Russia ceased, this would likely shift demand toward mines based in Canada and Australia because the grade of ore in these countries is so much higher than in the U.S. as to make it significantly less expensive and more efficient to mine.

The U.S. also has its own considerable stockpiles of mined uranium. According to the Energy Information Administration, owners and operators of U.S. nuclear power plants held over 131.5 million pounds of commercial uranium inventories at the end of 2018.⁶ U.S. brokers, traders, converters, enrichers, fabricators, and producers held an additional 19.9 million pounds of uranium in inventory in 2018.⁷

With millions of pounds of stockpiled uranium already on-hand, the U.S. has a buffer in the event supplies are ever actually interrupted. In the meantime, most of the companies within mining interests in the U.S. are subsidiaries of non-U.S. based mining companies⁸ and by incentivizing domestically mined uranium or waiving mining claim annual fees during inactivity or market downturn (which are mere \$155 per lode claim), the U.S. taxpayers would be subsidizing non-U.S. investments. Given the inherent high risk of uranium mining, even with today's environmental regulations, there also is no reason to remove land protections, such as the mineral withdrawal in place around the Grand Canyon in Northern Arizona. The NEI's recommended measures pose unacceptable risks to publicly owned land, tribes, water, wildlife, and taxpayers.

Recommendations to Increase Domestic Uranium Mining Risk Poisoning Tribal Resources, Water, and Wildlife.

Uranium mining conducted decades ago on Navajo Nation lands still threatens residents' health today. Between 1944 and 1986, uranium mines on Navajo land extracted almost 30 million tons (60 billion

⁴ U.S. ENERGY INFO. ADMIN., *Nuclear Explained, Where Our Uranium Comes From*, <https://www.eia.gov/energyexplained/nuclear/where-our-uranium-comes-from.php> (last visited Sept. 16, 2019).

⁵ AAPG EMD URANIUM (NUCLEAR & REE) COMM., 2019 EMD URANIUM (NUCLEAR MINERALS AND REE) COMM. ANNUAL REPORT, at p. 20 (May 12, 2019) available at <https://www.aapg.org/about/aapg/overview/committees/emd/ArticleId/26353/committee-emd-uranium#141872236-activity--reports>. (“[...] with the announcement that Russia could cease selling uranium to American utilities, this action might stimulate American production, but U.S. utilities will likely turn to Canadian and Australian uranium sources to meet demand on the basis of price alone.”)

⁶ U.S. ENERGY INFO. ADMIN., 2018 URANIUM MARKETING ANNUAL REPORT, at p. 3 (May 2019) available at <https://www.eia.gov/uranium/marketing/pdf/umar2018.pdf>.

⁷ *Ibid.*

⁸ See e.g. SEDAR, Energy Fuels Inc. Profile, <https://www.sedar.com/DisplayProfile.do?lang=EN&issuerType=03&issuerNo=00004321> (last visited Sept. 17, 2019) (reports to Canadian Securities); SEDAR, Ur-Energy Inc. Profile, <https://www.sedar.com/DisplayProfile.do?lang=EN&issuerType=03&issuerNo=00021840> (last visited Sept. 17, 2019) (reports to Canadian Securities); SEDAR, Azarga Uranium Corp. Profile, <https://www.sedar.com/DisplayProfile.do?lang=EN&issuerType=03&issuerNo=00005207> (last visited Sept. 17, 2019) (reports to Canadian Securities, also known as “Powertech”); SEDAR, W. Uranium & Vanadium Corp. (formerly W. Uranium Corp.) Profile, <https://www.sedar.com/DisplayProfile.do?lang=EN&issuerType=03&issuerNo=00026200> (last visited Sept. 17, 2019) (reports to Canadian Securities); SEDAR, Uranerz Energy Corp. Profile, <https://www.sedar.com/DisplayProfile.do?lang=EN&issuerType=03&issuerNo=00025814> (last visited Sept. 17, 2019) (reports to Canadian Securities); STRATA ENERGY, <https://stratawyo.com/> (last visited Sept. 17, 2019) (“Strata Energy is the US subsidiary of Australian-based Peninsula Energy Limited.”).

pounds) of uranium.⁹ Over 500 of these mines remain abandoned and the Navajo Nation continues to face elevated sources of radiation in residents' homes and drinking water.¹⁰ The EPA recognizes that Navajo people living and sourcing water near these mines experience life threatening health effects associated with exposure to elevated levels of uranium, including lung and bone cancer and impaired kidney function.¹¹ In New Mexico, the effects of the largest accidental uranium spill in the country are still taking a toll 40 years later.¹² The collapse of a uranium tailings pond at the Church Rock Mill released 94 million gallons of contaminated radioactive liquid and 1,100 tons of solids into the Puerco River.¹³ The EPA and other agencies spent over \$10 million in remediation efforts, yet the Church Rock Mine remains a high priority site.¹⁴ The cleanup of much of the remaining uranium legacy on Navajo lands still has yet to be fully funded or even assessed for whether and how cleanup can be accomplished. And while the consequences of uranium mining from decades ago continue to wreak havoc on the health and livelihoods of Navajo Nation residents, the Nation has banned uranium mining and milling since 2005.¹⁵

Uranium mining operations today may have improved in some regards, but it is still not safe. And when newer uranium mining could happen on and near lands as significant and sacred as the Grand Canyon and Bears Ears National Monument, the risk is not worth taking. As an example, the risk assessment for and the permitting of the Canyon Mine, operated by Energy Fuels Resources and located less than ten miles from the rim of the Grand Canyon, largely assumed that the mine would be dry.¹⁶ But in 2013, the company pierced perched aquifers while digging the 1,400 foot mineshaft.¹⁷ The piercing of additional aquifers in 2016 resulted in severe and ongoing flooding of groundwater into the mine workings.¹⁸ The operation has yet to actually mine a single ounce of uranium, but has resulted in a perpetual and unplanned flooding problem creating consequent risk that pollution will spread beyond the mineshaft. In 2018, around 10 million gallons of groundwater inundated the mine, a volume that has only increased

⁹ EPA, *Navajo Nation: Cleaning Up Abandoned Uranium Mines*, <https://www.epa.gov/navajo-nation-uranium-cleanup/cleaning-abandoned-uranium-mines> (last visited Sept. 16, 2019).

¹⁰ *Ibid.*; START T9 REGION 9, PREPARED FOR U.S. EPA REGION 9, NAVAJO NATION DRINKING WATER SOURCE SAMPLING FEB. – MAR., 2008, (Aug. 28, 2008) available at <https://www.epa.gov/sites/production/files/2016-06/documents/2008-08-28-navajo-drinking-water-source-sampling.pdf>; DRINKING WATER OFFICE, WTR-6, EPA REGION 9, NAVAJO NATION UNREGULATED WATER SOURCE SAMPLING RESULTS OCT. 2009 SAMPLING EVENT (Aug. 2010) available at <https://www.epa.gov/sites/production/files/2016-06/documents/2010-08-01-navajo-water-sample-results-final-report.pdf>.

¹¹ *Supra* note 9.

¹² Samuel Gilbert, *Church Rock, America's Forgotten Nuclear Disaster, Is Still Poisoning Navajo Lands 40 Years Later*, VICE (Aug. 12, 2019), https://www.vice.com/en_us/article/ne8w4x/church-rock-americas-forgotten-nuclear-disaster-is-still-poisoning-navajo-lands-40-years-later.

¹³ *Ibid.*

¹⁴ FEDERAL ACTIONS TO ADDRESS IMPACTS OF URANIUM CONTAMINATION IN THE NAVAJO NATION, FIVE-YEAR PLAN SUMMARY REPORT, (Jan. 2013) available at https://www.eenews.net/assets/2013/01/24/document_pm_01.pdf.

¹⁵ Resolution of the Navajo Nation Council, 20th Navajo Nation Council, Third Year, 2005, An Act Relating to Resources, and Diné Natural Resources Protection Act of 2005, Amending Title 18 of the Navajo Nation Code (Banning Uranium Mining and Milling on the Navajo Nation) available at <http://www.navajocourts.org/Resolutions/CAP-18-05.pdf>.

¹⁶ USFS, FINAL ENVTL IMPACT STATEMENT CANYON URANIUM MINE, at p. viii (1986) (“The possibility of significant ground water contamination from the mine is remote. Ground water flows, if they exist, are likely to be at least 1,000 feet below the lower extremities of the mine. This, plus the low potential for encountering groundwater in the mine, effectively eliminates the possibility of contaminating the Redwall-Muav aquifer.”).

¹⁷ Energy Fuels, Canyon Mine Non-Stormwater Impoundment 3.04 General Aquifer Protection Permit No. P-100333 Fourth Quarter and Annual Report for 2013 Water Quality Report (Jan. 13, 2014) available at https://www.grandcanyontrust.org/sites/default/files/documents/Canyon_Mine_APP_Annual_Report_2013.pdf.

¹⁸ Energy Fuels, Canyon Mine Non-Storm water Impoundment 3.04 General Aquifer Protection Permit No. P-100333 Annual Report for 2017 (Jan. 29, 2017) available at https://www.grandcanyontrust.org/sites/default/files/documents/Canyon_Mine_APP_Annual_Report_2017.pdf.

each year since 2016 (the mine also took on smaller amounts of water in 2013 and 2015).¹⁹ According to the mine operator’s own data, the water pulled from the mineshaft consistently and significantly exceeds water quality standards for dissolved uranium, arsenic, and other toxicity levels and the evidence suggests that water is contaminated by contact with the mineshaft.²⁰

According to the Department of Energy’s own estimates, “it would cost approximately \$2.3 billion (in 1998 dollar value) to clean up the uranium ore processing facilities nationwide” and this limited estimate does not include uranium mines and overburden sites, making the real cost much higher.²¹ Experience has shown that contamination and pollution at uranium mining and millsites is to be expected and that even with efforts to minimize and mitigate contamination and pollution, it remains an ongoing problem spanning decades, if not longer.²²

In addition to risks posed by underground mines such as those on the Navajo Nation or near the Grand Canyon, much of today’s uranium mining is done using the in-situ leach (ISL) method. ISL is conducted by the injection of a solution into the uranium-bearing formation to dissolve and capture the uranium and recovery of the solution, now “pregnant” with uranium and other metals. ISL is inadequately and inconsistently regulated with a patchwork of regulators (the Nuclear Regulatory Commission, Environmental Protection Agency (EPA) and Agreement States) and requires exemption of aquifers from the protections of the Safe Drinking Water Act.²³ To date, instead of moving forward with actions that would better protect human health and the environment, the EPA has withdrawn proposed standards that focused on groundwater protection and restoration for ISL operations and that sought to tighten health and safety compliance rules for uranium miners,²⁴ while the NRC has failed to propose any new regulations for ISL. Exemption and subsequent pollution of aquifers, in the arid west and other regions, is ill-conceived, ill-timed, and unnecessary.

The Grand Canyon and Bears Ears regions and beyond are home to hundreds of native wildlife like mule deer, mountain lions, bighorn sheep, ringtails, and condors.²⁵ Bears Ears is also home to an estimated 100,000 or more archeological sites documenting indigenous inhabitation in the southwest for

¹⁹ Energy Fuels, Canyon Mine Non-Storm water Impoundment 3.04 General Aquifer Protection Permit No. P-100333 Annual Report for 2018 (Jan. 29, 2019) available at https://www.grandcanyontrust.org/sites/default/files/documents/Canyon_Mine_APP_Report_2018.pdf.

²⁰ Ibid.

²¹ ABANDONEDMINES.GOV, About Uranium Mines, https://www.abandonedmines.gov/about_uranium_mines (last visited Sept. 18, 2019) (citing 1998 DOE Congressional testimony).

²² See e.g. Brandon Loomis, *Uranium-mine cleanup on Navajo Reservation Could Take 100 years*, THE REPUBLIC, (Aug. 4, 2014) <https://www.azcentral.com/story/news/arizona/investigations/2014/08/06/uranium-mining-navajo-reservation-cleanup-radioactive-waste/13680399/>; Emma Penrod, *The Water Around a Utah Uranium Mill is Growing More Polluted. What Does it Mean for the Nearby Town?*, THE SALT LAKE TRIBUNE, (Oct. 22, 2018), <https://www.sltrib.com/news/environment/2018/10/21/ute-tribal-members-living/>; See e.g. Jonathan Romeo, *Uranium Dumpsite S. of Durango Leaching into Groundwater*, THE DURANGO HERALD (Aug. 28, 2019), <https://durangoherald.com/articles/291476>

²³ Health and Env’tl Protection Standards for Uranium and Thorium Mill Tailings, 80 Fed. Reg. 4,156 (proposed Jan. 26 2015) available at <https://www.govinfo.gov/content/pkg/FR-2015-01-26/pdf/2015-00276.pdf>.

²⁴ EPA, *40 CFR Part 192: Proposed Rulemaking and Background Documents*, <https://www.epa.gov/radiation/40-cfr-part-192-proposed-rulemaking-and-background-documents> (last visited Sept. 18, 2019); EPA, Health and Env’tl Protection Standards for Uranium and Thorium Mill Tailings, 83 Fed. Reg. 54543 (Oct. 30, 2018) available at <https://www.federalregister.gov/documents/2018/10/30/2018-23583/health-and-environmental-protection-standards-for-uranium-and-thorium-mill-tailings>.

²⁵ See e.g. NAT’L PARK SERV., Grand Canyon Wildlife, <https://www.nps.gov/grca/learn/nature/wildlife.htm> (last visited Sept. 16, 2019); BHA, BEARS EARS NAT’L MONUMENT, https://www.backcountryhunters.org/bears_ears_national_monument (last visited Sept. 16, 2019); GRAND CANYON TRUST, BEARS EARS WILDLIFE GUIDE, <https://www.grandcanyontrust.org/bears-ears-wildlife> (last visited Sept. 16, 2019); BLM, BEARS EARS NAT’L MONUMENT: MONUMENT MGMT. PLANS AND ENVT’L IMPACT STATEMENT SHASH JAÁ AND INDIAN CREEK UNITS, at p. 10 (2018) available at <https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=dispatchToPatternPage¤tPageId=140966>

over 13,000 years.²⁶ This is in addition to the significance these landscapes continue to hold today to Native American communities and cultures. Local economies benefit enormously from tourism driven by these landscapes, which dwarves any estimated economic benefit from uranium mining. For example, Grand Canyon National Park draws over six million visitors every year.²⁷ In 2018, Grand Canyon visitors spent \$987 million in nearby communities.²⁸ Grand Canyon tourism supported 12,558 local jobs — cumulatively benefiting the local economy by \$1.2 billion.²⁹ The Bureau of Land Management estimates that even under the best of circumstances, uranium mining in the Grand Canyon region would be significantly less beneficial to local economies, creating less than 640 jobs and generating only around \$23 million for the federal, state, and local governments.³⁰ These potential benefits from mining would also be short-lived;³¹ a typical breccia pipe uranium mine in the Grand Canyon region would be mined out in about a decade.³² Further, any mining-related economic benefits could be countered by the potential cost of millions of dollars in taxpayer funded cleanup and damage to ecosystems and water resources, if mining operations do not go as smoothly as operators planned.³³

In short, recommendations seeking to increase domestic uranium mining are unnecessary for security and energy purposes, but pose significant risks and permanent harm to human communities, cultural and sacred sites, wildlife, and iconic lands such as the Grand Canyon and Bears Ears. The far-reaching implications of the Working Group’s recommendations should not be made in a void of public process and comment. We implore the Working Group’s recommendations be transparent by providing the public and tribes the opportunity to comment on the recommendations and to take those comments into account in the final recommendations that are made. We also urge the Working Group’s recommendations to adopt measures that instead of risking irreversible damage from increasing domestic uranium mining, focus on utilizing the millions of tons of uranium that is already on-hand and ongoing relationship with strong allies, this strategy is more than enough to meet the U.S.’s security and energy needs.

In summary, we ask the Working Group to:

- Not recommend measures that would mandate increased domestic uranium mining and/or artificially inflate prices.
- Commit to recommendations that do not lift or revise critical public lands and cultural resources protections such as the Northern Arizona Mineral Withdrawal and other mineral withdrawals and measures.
- Not issue recommendations that ignore or diminish the process for assessing and designing mine cleanup, particularly on the Navajo Nation.

²⁶ BEARS EARS INTER-TRIBAL COALITION, Native American Connections, <https://bearscoalition.org/ancestral-and-modern-day-land-users/> (last visited Sept. 17, 2019).

²⁷ Ibid.

²⁸ NAT’L PARK SERV., *Tourism to Grand Canyon Nat’l Park Creates Economic Benefit*, <https://www.nps.gov/grca/learn/news/grand-canyon-economic-benefit.htm> (last visited Sept. 17, 2019).

²⁹ Ibid.

³⁰ BLM, N. ARIZ. PROPOSED WITHDRAWAL FINAL ENV’T L IMPACT STATEMENT, at p. ES-18 (Oct. 2011) available at https://www.grandcanyontrust.org/sites/default/files/resources/gc_FEIS_Northern_Arizona_Proposed_Withdrawal.pdf.

³¹ Ibid. at p. 4-278 (Oct. 2011).

³² Energy Fuels Nuclear, Inc., Plan of Operations Notice of Intent, Canyon Mine, at p. 10 (Oct. 1984) available at https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fseprd475369.pdf.

³³ Ibid.

- Steer away from recommendations that would support stripping away environmental protections or public process.
- Commit to transparency by ensuring the public has access to the report stemming from the Department of Commerce’s investigation on uranium, is provided with draft recommendations and a public comment opportunity, and that public comment informs the final recommendations.

Sincerely,

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C: The Honorable Michael R. Pompeo, Secretary of State
The Honorable Steven T. Mnuchin, Secretary of Treasury
The Honorable Dr. Mark T. Esper, Secretary of Defense
The Honorable David Bernhardt, Secretary of Interior
The Honorable Rick Perry, Secretary of Energy
The Honorable Mick Mulvaney, Director of the Office of Management and Budget
The Honorable Michael Kratsios, Director of the Office of Science and Technology Policy
The Honorable Wilbur L. Ross, Jr., Secretary of Commerce
The Honorable Kristine Svinicki, Chairman, U.S. Nuclear Regulatory Commission
The Honorable Richard Ashooh, U.S. Assistant Secretary of Commerce for Export Administration