

Uranium Watch

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via electronic mail

October 13, 2021

Response to Uranium Reserve RFI
c/o Mr. Kyle Fowler
U.S. Department of Energy
National Nuclear Security Administration
Mailstop NA-10, 1000 Independence Avenue SW
Washington, DC 20585-0121
rfi-uranium@hq.doe.gov

RE: Response to Uranium Reserve RFI. *Federal Register* Notice, 86 Fed. Reg. 44007, August 11, 2021. Federal Regulations Docket No. ID DOE_FRDOC_0001-4232.

Dear Mr. Fowler:

Below please find the comments of Uranium Watch, Citizens for Alternatives to Radioactive Dumping, Living Rivers, Green Action of Health and Environmental Justice,

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Comments are submitted in response to the National Nuclear Security Administration, U.S. Department of Energy, "Request for Information Regarding Establishment of the Department of Energy Uranium Reserve Program," published in the *Federal Register* on August 11, 2021.

Uranium Watch is a 501(c)(3) non-profit organization located in southeast Utah. Uranium Watch's Program Director has been involved in health, safety, and environmental issues related to the uranium industry, primarily in southeast Utah, for almost 20 years.

1. General Comments

1.1. Commenters appreciate the extension of time for the submittal of comments on the “Request for Information Regarding Establishment of the Department of Energy Uranium Reserve Program,” even though the Department of Energy (DOE) initially rejected requests to extend the comment period. The initial 30-day comment period did not provide for “meaningful stakeholder engagement.” A ninety-day to 180-day comment period would have been more appropriate.

1.2. The DOE should have provided more information about the proposed establishment of a Uranium Reserve. It should have outlined the necessary conditions and interfaces that would be required to implement the establishment of a Uranium Reserve.

1.3. There many important questions and considerations that need to be discussed publicly by the DOE. The DOE must consider and explain what happens if the Uranium Reserve is only funded for one year or intermittently over a lengthy period of time. What happens to the reserve if ongoing funding is not allocated to care for the uranium in the Reserve? What happens when the Reserve fails to purchase uranium consistently and mines and uranium recovery operations operate intermittently, with extended periods of standby? How will the Uranium Reserve be licensed and regulated? Who has access to the reserve and how will the reserve be allocated? Who is responsible if there is an accident related to transport and storage of uranium for the Reserve and to users of the Reserve’s uranium?

1.4. The DOE has not adequately stated how the uranium in the Uranium Reserve will be allocated and, most importantly, how it will be used for the U.S. atomic weapons program. The DOE has conveniently not been forthright about the needs and desires of the DOE and Department of Defense atomic weapons programs for new supplies of uranium. The DOE must provide detailed and substantiated information about the allocation of uranium in the Reserve for atomic weapons.

1.5. Commenters are opposed to the use of the Uranium Reserve for the DOE and Department of Defense atomic weapons programs, including the use of depleted uranium. Atomic weapons are a blight on the world. The U.S. should be pursuing atomic weapon reductions world-wide, not new weaponry and a new nuclear arms races.

1.6. As will be shown below, the best—and least costly and impactful—way to maintain a Uranium Reserve, is to keep it in the ground.

2. Department of Energy Uranium Reserve Request for Information Public Notice

2.1. Background

2.1.1. The Background information in this Notice includes numerous statements that are not supported by any references and factual bases. They are just opinions—with no supporting information or documentation. This makes it difficult for the public to evaluate the Uranium Reserve proposal and to make substantive comments.

2.1.2. The DOE Uranium Reserve comment opportunity is hampered by the lack of a credible background document that provides basic information to the public about the proposed Uranium Reserve, with references to supporting documentation. Normally, this is the type of document that would have been developed by a federal agency involved in such a complex and costly endeavor. This whole DOE process has been extremely inadequate and haphazard.

Such a document should have included information on:

- A. The foreign ownership of uranium mines and recovery operations in the United States.
- B. The uranium “sites” that would provide uranium to the DOE Uranium Reserve.
- C. The environmental impacts, including cumulative impacts, associated with the production of uranium for the Reserve and for the uses of the uranium from the Reserve.
- D. Plans to use the Uranium Reserve for the U.S. atomic weapons program.
- E. A complete analysis of impacts of uranium mining and milling to tribal lands and tribal communities from the commencement of the U.S. atomic weapons program to the present. This would include impacts to the health of workers and community members, impacts to ground and surface water, impacts to air quality, and impacts to tribal lands.
- F. Documentation of money spent and anticipated to be spent by the federal government to compensate uranium mine, mill and transportation workers under the Radiation Exposure Compensation Act (RECA) and the Energy Employees. Occupational Illness. *Compensation. Program Act* (EEOICPA) Programs.
- G. Documentation of the federal monies spent and anticipated to be spent by the DOE and other federal agencies to reclaim uranium mills and uranium mill tailings. This would include information on the costs of inspections, maintenance, long-term care, and ground water monitoring and remediation.

- H. Information on abandoned uranium mines and mine reclamation programs for uranium mines associated with the U.S. atomic weapons program and for domestic nuclear fuel on federal, state, tribal, and private lands. Information on the money spent and anticipated to be spent on these mine reclamation and remediation programs by the federal government. The DOE must account for the past and how it will reclaim the hundreds of uranium mine sites associated with the atomic weapons program and the long history of federal and state regulatory failures.
- I. A full accounting of the cumulative financial, environmental, and social costs of each step of the fuel chain must be conducted.
- J. Information about what happens to the reserve if ongoing federal funding is not allocated to care for the uranium in the Reserve.
- K. Detailed information about how will the Uranium Reserve be licensed and regulated.
- L. Detailed information about who has access to the Reserve and how will the reserve be allocated.
- M. Information about who will be responsible if there is an accident related to transport or storage of uranium in the Reserve.
- N. Complete Data on the fossil fuel requirements for the whole nuclear fuel chain, from mineral exploration to the long term care and monitoring of numerous radioactive waste streams, from drill cuttings at uranium exploration sites to irradiated nuclear fuel.
- O. Data and information on the water use and water needs associated with the nuclear fuel chain. This would include current uses and needs and anticipated needs as the U.S. continues to produce nuclear fuel and the needs for the operation of existing and proposed new nuclear reactors.
- P. A complete accounting of the various waste streams associated with the nuclear fuel chain. This would include information on the types of waste and their radiological and non-radiological constituents, amounts of waste, regulatory programs associated with the production and disposal of the various waste streams, location of the facilities that will store the waste streams during the operation of the facilities, transportation of the waste streams, long-term storage and maintenance of the waste streams, and other aspects of the waste streams that are produced by the nuclear fuel chain. It should also include an accounting of the waste streams that will be associated with the proposed Uranium Reserve.

2.2. Public Notice: *In the United States (U.S.), nuclear energy provides more than 55 percent of our clean energy and supports about half a million American jobs.*

2.2.1. The Notice claims that “U.S. nuclear energy provides more than 55 percent of our clean energy.” The DOE claims that nuclear energy is “clean energy,” without defining “clean energy.” The DOE should not claim that “nuclear energy” is “clean energy” without defining that term and substantiating that assertion. The DOE must describe and provide data on all of the radiological and non-radiological emissions to the environment; the radioactive and non-radioactive wastes that must be cared for by a licensee and/or a government agency in the short term, long term, and in perpetuity; health and safety impacts; impacts to domestic animals and wildlife; impacts to ground and surface water; cumulative impacts; and all other impacts associated with the nuclear fuel chain.

2.2.2. The DOE seems to forget that nuclear energy involves a whole fuel chain, from uranium exploration to the disposal and long term surveillance and care of irradiated fuel and high and low-level nuclear wastes. These industrial processes have had numerous adverse health effects and have polluted air, land, and water and will continue to do so for hundreds of thousands of years. Uranium mining and milling operations have damaged and polluted thousands of acres of public, tribal, state and private lands; polluted major rivers, particularly the Colorado River and its tributaries; and polluted millions of gallons of groundwater and continues to do so.

2.2.3. The nuclear fuel chain requires large amounts of energy, primarily for the use of fossil fuels. These include the energy needed to explore for uranium; mine uranium; process uranium at a conventional uranium mill; extract and process uranium from in-situ leach (ISL) uranium recovery operations; convert uranium to uranium hexafluoride; enrich uranium; manufacture uranium fuel; construct fuel production facilities and manufacture parts; transport workers, materials, products; and wastes; store wastes from the production of nuclear fuel; reclaim facilities; monitor and maintain sites, some in perpetuity, after operations have ended; and other associated operations. A nuclear power plant requires energy, primarily from fossil fuels, to manufacture its many components and construct the facility; operate the reactor; transport workers, materials, components, and wastes; decommission the reactor; store the irradiated fuel on site and transport it to some, as-yet-unknown permanent repository; provide energy for the Nuclear Regulatory Commission (NRC) buildings and regulatory operations; and for other aspects of the nuclear energy industrial and regulatory operations. In sum, nuclear energy does not provide “clean energy.”

It is completely dishonest for the DOE to claim that nuclear energy is “clean energy.”

2.2.4. The lack of a viable uranium industry in the U.S. does not at all threaten the jobs of most of the nuclear industry workers in the U.S. Nuclear fuel is still being produced from uranium that is supplied domestically and from foreign countries, as has been the case for many years.

2.3. Public Notice: *However, the U.S. nuclear industry and the nuclear fuel supply chain face significant challenges that have left domestic nuclear fuel suppliers in a weakened position on the domestic and global stage.*

2.3.1. The DOE must identify and explain the nuclear fuel supply chain and the significant challenges that has put nuclear fuel suppliers in a weakened position on the domestic and global stage. The DOE should discuss the state of the domestic nuclear fuel supply chain and the causes of any difficulties it has experienced since the 1950s. A July 2018 report, *The Market Impacts of Proposed U.S. Uranium Import Quotas on the U.S. Nuclear Power Industry*, NorthBridge Group, provides data on the production of uranium in the U.S. See Exhibit A.

2.3.2. Domestic uranium fuel suppliers are, for the most part, foreign-owned companies. The so-called “U.S.” uranium industry is actually the “Canadian” uranium industry. These Canadian companies include: Energy Fuels Inc., parent company of Energy Fuels Resources (USA) Inc. (uranium mines, only operating conventional uranium mill, and ISL uranium recovery operations); U-R Energy Inc. (ISL uranium operations); Anfield Energy Corp. (Shootaring Canyon Mill, Utah (on standby since 1982), and uranium properties); Western Uranium Corp. (uranium mine properties); Virginia Energy Resources Inc. (uranium properties); Crow Butte Resources (Cameco Corp.) (ISL uranium recovery operations); Asarga Uranium (Powertech) (ISL uranium recovery operations); Kennecott (Rio Tinto) (ISL uranium recovery operations); and Uranerz Energy Corp. (ISL uranium recovery operations).

Uranium One Inc. (ISL uranium recovery operations) is a Russian company, and Strata Energy (ISL uranium recovery operations) is an Australian company. In addition to owning uranium recovery operations in the US, Cameco owns operations in Kazakhstan.

The three licensed, permitted and constructed conventional uranium mills in existence in the U.S. are owned by Canadian companies: Anfield Energy Inc. owns the Shootaring Canyon Mill (Utah), Rio Tinto owns the Sweetwater Mill (Wyoming), and Energy Fuels (USA) Inc. (Energy Fuels) owns the White Mesa Mill (Utah). Only the White Mesa Mill is licensed to operate.

2.3.3. The uranium industry, just like the nuclear reactor industry, is a global industry, which the U.S. benefits from. The U.S. has been, and continues to be, adequately supplied by domestic and foreign uranium. The U.S. is almost totally reliant on foreign ownership and foreign investment in the domestic uranium industry. So, any tax-payer support of the uranium industry in the U.S. goes, inevitably, to foreign owned companies and foreign investors.

2.3.4. The DOE must describe the “weakened position” and the significant challenges faced by foreign companies in the U.S., and how that has harmed the U.S. nuclear industry in general.

2.3.5. The DOE seems to be concerned about the well-being of an industry that is owned and operated by subsidiaries of foreign companies. The DOE must clarify whether the DOE considers the operations of those companies on foreign soil (for example, Canada and Australia) to be competing with U.S. domestic production and weakening the U.S. economy.

2.3.6. The DOE must recognize that there are other factors besides the import of uranium from foreign countries that have impacted the uranium industry, particularly conventional uranium mining. The fact is that most of the permitted uranium mines in Utah and Arizona that provided ore to the White Mesa Uranium Mill are mines that were initially developed in the 1970s.

During the last period of ore production from uranium mines in Utah and Arizona (2007 to 2015), all of the mines, except 2, were already permitted to operate. Two new mines were permitted in Utah (Tony M and Daneros) at previously reclaimed mine sites. The only new mine that is still under development (though development has been suspended) is the Pinyon Plain Mine (formerly called the Canyon Mine) on the south rim of the Grand Canyon, which was initially permitted in 1981. Development at the Pinyon Plain Mine was suspended because of a hoist break, caused by reliance on old equipment. The uranium mines in Utah that are permitted by the Bureau of Land Management (BLM) and/or the Utah Division of Oil, Gas & Mining that are not ready to commence operations without additional permitting and/or construction are: Daneros Large Mining Operation, Energy Queen, Redd Block IV, Rim Mine, and Tony M. Mine. Recently Energy Fuels announced that they had entered into an asset purchase agreement whereby International Consolidated Uranium Inc. would acquire the Daneros, Rim, and Tony M Mines and other mineral properties.¹

The only other uranium mine that produced ore for the White Mesa Mill in the past 10 years that is most likely ready for operation is the Arizona 1 Mine on the north rim of the Grand Canyon.

In Colorado, there are 2 permitted uranium mines that might produce ore, the Whirlwind, and the Sunday Mine Complex. The owner of the Sunday Mine Complex, Pinon Ridge Mining LLC, have stockpiled ore underground. The Complex has permitting and legal issues that have not been resolved. Apparently, there is no arrangement to process the ore at the White Mesa Mill.

2.3.7. The status of Utah uranium mine operations:

A. La Sal Mines Complex: This complex of 4 Mines (Beaver Shaft, La Sal, Pandora, and Snowball), is the most developed mine operation, but the proposed expansion of the mine

¹ <https://www.energyfuels.com/2021-07-15-International-Consolidated-Uranium-Enters-the-U-S-Uranium-Sector-with-Transformational-Acquisition-and-Strategic-Alliance-with-Energy-Fuels>

has not yet commenced. The Snowball Mine is undergoing reclamation of the mine site and waste rock pile, which is adjacent to a road on federal lands.

B. Rim Mine: This mine has not operated since 2009. Energy Fuels will need to install a ground water monitoring system before the mine restarts. The mine water that currently floods the mine will also have to be pumped, treated, and discharged. The mine needs repair and replacement of equipment. Little ore was produced in the last production period.

C. Daneros Mine: The U.S. Department of Interior, BLM, has approved the expansion of the Daneros Mine from 6.5 acres to 65 acres. That expansion has not taken place. The Mine site has serious erosion and flooding problems.

D. Tony M Mine: For the mine to be productive, new phases of mine operation must be approved and the mine developed further.

E. Energy Queen Mine: The mine last operated in 1982. The mine workings are flooded. A mine-water treatment system will have to be constructed and accumulated mine water pumped, treated, and discharged prior to any new mine development.

F. Sage Mine: This mine, on BLM administered land, last operated in 1990, without BLM authorization. To commence mine operations, the mine operator, Pinon Ridge Mining LLC, needs to submit a Plan of Operation to the BLM and have it approved, repair and develop the site and mine workings, and obtain a water right for water to be used at the mine.

2.3.8. The White Mesa Mill and conventional uranium mines have operated erratically since the 1970s. The low uranium prices and erratic mine and mill operations are not sudden events caused by the import of uranium from foreign countries, some by the same companies that can supply uranium from U.S. operations, or some federal policy failure.

2.4. Public Notice: *Revitalizing the U.S. nuclear fuel supply infrastructure would support the Administration's goals described in the American Jobs Plan,^[1] including addressing the climate crisis, creating American jobs, positioning the U.S. to compete with economic rivals, and supporting national security.*

2.4.1. The production of additional uranium by foreign companies in the U.S. to supply a Uranium Reserve will do nothing to address the climate crisis. Nuclear power has become very costly and cannot compete with other types of power generation that do not produce radioactive wastes that must be kept under perpetual government care and a nuclear fuel chain that contaminates air, water, land, and other aspects of the environment.

2.4.2. Nuclear power is not “clean power” and does little to address the “climate crisis.” The federal government should put funds and support to wind, solar, energy efficiency,

public education, cars that use less fuel, reduction of livestock and the consumption of meat and dairy products, and other means to reduce carbon emissions.

2.4.3. The uranium industry has always been a boom-and-bust economy. There is no evidence that in the past 65 years that U.S. national security has suffered due to the fluctuations in uranium production. Conventional uranium mines that are currently permitted in Colorado, Utah, and Arizona have been on standby more years than they have produced ore. *See* Exhibit B. Many of these mines commenced production before 1980 and have operated off and on since then. The White Mesa Mill has processed ore intermittently since 1980. *See* Appendix C. Yet, the nuclear reactors in the U.S. have continued to operate and national security has not compromised.

2.4.4. The “American Jobs Plan” states that a Uranium Reserve will: “Create good-quality jobs that pay prevailing wages in safe and healthy workplaces while ensuring workers have a free and fair choice to organize, join a union, and bargain collectively with their employers.” This is an unsubstantiated claim. The DOE has not explained how the establishment of a Uranium Reserve will meet these goals. There is no information in the Notice about the wages paid to workers in the uranium industry and the extent of union membership.

2.4.5. The Uranium Reserve and increased production of uranium in the U.S. will not fulfill the “American Jobs Plan” goal. Jobs in the conventional uranium mining and milling industry are not good-quality jobs. The jobs are hazardous jobs due to exposure to uranium and thorium, radon and its progeny, silica, arsenic, noise, and other workplace hazards. Since uranium mines only operate for a few years at a time, work at the mines fluctuates and cannot be guaranteed. The uranium miners and millers in the Four Corners area (Utah, Colorado, Arizona, and New Mexico) are not unionized. It is our understanding that entry jobs at the White Mesa Uranium Mill in Utah start at less than \$15 an hour and do not include health care. Worker families and community members are also exposed to radionuclides from mining and milling operations.

2.4.6. There is no guarantee that the purchase of uranium for the Reserve from Energy Fuels would bring about the restart of any of their conventional mines. Energy Fuels obtains uranium from the processing of uranium-bearing wastes from other mineral processing operations. Energy Fuels is seeking to receive and process uranium-bearing soils and materials from the remediation of uranium mines on the Navajo Nation, including materials from the reclamation of the North East Church Rock Mine in New Mexico. Uranium-bearing wastes from the reclamation of the Mt. Taylor Mine, New Mexico, have been shipped to the White Mesa Mill and are being stockpiled for future processing. Uranium from these sources, rather than from conventional mining, may be what will be sold to the federal government, and funded by taxpayers, for the Reserve.

2.4.7. If the DOE wants to support low-income and minority communities with jobs that would also protect community health and the environment, it would fully fund the

remediation of thousands of abandoned uranium mines on state, federal, tribal, and private lands that were associated with the atomic weapons program. There are existing state and tribal programs to fully remediate abandoned uranium mines, but what is lacking are the funds to carry out these remedial action programs. Most of these abandoned mines are in the areas impacted by existing uranium mines and the White Mesa Mill in southwest Colorado and southeast Utah.²

2.5. Public Notice: *It would support environmental justice initiatives, prioritize addressing long-standing and persistent racial injustice by targeting 40 percent of the benefits of climate and clean infrastructure investments to disadvantaged communities, consider rural communities and communities impacted by the market-based transition to clean energy, and include meaningful stakeholder engagement.*

2.5.1. The DOE has not provided any information regarding how a Uranium Reserve would support environmental justice initiatives, prioritize addressing long-standing and persistent racial injustice. The Notice mentions “targeting 40 percent of the benefits of climate and clean infrastructure investments to disadvantaged communities,” but does not provide any information about those communities and the types of infrastructure investments the DOE is talking about.

2.5.2. The DOE must define “meaningful stakeholder engagement.” Since the White Mesa Mill and other types of uranium recovery operations are already licensed and there are uranium mines, most of which are on public lands, that already have permits, it is hard to know what type of “meaningful stakeholder engagement” the DOE is talking about.

2.5.3. “Meaningful stakeholder engagement,” should include public meetings in the vicinity of the communities that will be impacted by the creation of a Uranium Reserve. It would include plenty of time for interested persons and organizations and affected communities to frame comments, not just the current minimal 60-day comment period. It would require the DOE to provide information about the Reserve and its short-term and long-term impacts on affected communities and the environment.

2.5.4. The DOE must provide a full analysis of the cumulative health, safety, and environmental impacts from the uranium mining and milling industry, uranium conversion, enrichment, fuel fabrication, transportation, and the uranium reserve itself, with particular attention to the waste produced by these industrial operations and long-term impacts.

2.5.5. The Uranium Reserve would not serve any “environmental justice” goals or address long-standing and persistent racial injustices. The creation of a Uranium Reserve

² <https://www.energy.gov/lm/defense-related-uranium-mines-program>

would, in fact, have harmful and adverse impacts on tribal and low-income rural communities. Below is information about some of these impacted communities:

2.5.5.1. White Mesa Ute Community. The White Mesa Ute Community, adjacent to the White Mesa Uranium Mill, the only operating conventional uranium mill in the U.S., is adversely affected by the operation of the Mill and would be directly, adversely impacted by the creation of the Uranium Reserve. Additional uranium mill tailings and liquid effluents will be deposited in the tailings impoundments. This will increase the cumulative impact of radioactive emissions from the Mill and the threats to the quality of the groundwater. If substantially more uranium ore is processed, additional tailings impoundments will be needed, increasing the overall and cumulative impacts of the Mill operation. The Mill owner and operator, Energy Fuels, has already applied for authorization to construct two (2) additional tailings impoundments.³ Energy Fuels will not be required to monitor the radon emissions from the new tailings impoundments, report those emissions to the Utah Division of Air Quality and the Environmental Protection Agency (EPA), or take corrective actions should the emissions exceed the regulatory limit that had been established by the EPA for conventional mill tailings impoundments at 40 C.F.R Part 61 Subpart W.⁴

The more tailings impoundments, the more cumulative radon and other radioactive emissions during operation, periods of standby, and after reclamation; the more culturally significant archaeological sites that will be destroyed; the more threats to the ground and surface water during and after Mill operation; and the more tailings that must be kept under government care in perpetuity.

For many years members of the White Mesa community have opposed the operation of the White Mesa Mill. They are concerned about the adverse impacts to their spiritual and physical well being from the Mill operation. They are concerned about the impacts to, and destruction of, culturally significant historic and ancient sites, including burial sites on White Mesa. They are concerned about their elders and the young people who no longer play outside the way they used to. They are concerned about the awful smell from the Mill during operation. They are concerned about the emission of radioactive and hazardous materials from the Mill operations. They are concerned about the impacts to nearby springs and native plants and animals. They have seen changes in the vegetation and health of the deer since the Mill commenced operation in the early 1980s. They are concerned about impacts to the local groundwater and the presence of the Mill tailings in perpetuity. They are concerned about the children riding the school bus past the Mill to and from Blanding. They are concerned about the transportation of uranium ores,

³ <https://deq.utah.gov/waste-management-and-radiation-control/white-mesa-uranium-mill-tailings-cells-5a-5b-license-amendment-request-energy-fuels-resources-usa-inc>

⁴ <https://www.epa.gov/radiation/subpart-w-national-emission-standards-radon-emissions-operating-mill-tailings>

contaminated wastes from other mineral operations (called, “alternate feed”), and waste from in-situ leach uranium recovery operations to the Mill and transportation of yellowcake from the Mill. They are concerned about spills of radioactive materials on the local roads, which have already taken place. They are concerned about any White Mesa community members who might work at the Mill.

If the DOE were serious about their commitment to “meaningful stakeholder engagement,” they would have held public meetings at White Mesa to inform the community about the proposed Uranium Reserve and receive public comments. It is not too late for the DOE to hold such meetings, not only at White Mesa, but at any community that will potentially be affected by the establishment of a Uranium Reserve.

2.5.5.2. Pinyon Plain Mine (formerly, Canyon Mine): Tribes in northern Arizona will be adversely impacted by the development and operation of the Pinyon Plain Mine on the south rim of the Grand Canyon, which has the potential to contaminate springs in the Canyon. The Havasupai Tribe is concerned about the impacts to the Grand Canyon and the tribe’s water sources. Tribes in the area are concerned about the impacts of transportation of ore from the north and south rims of the Grand Canyon to the Mill.

2.5.5.3. La Sal Mines Complex: The conventional uranium mine that Energy Fuels is prepared to restart is the La Sal Mines Complex adjacent to the community of La Sal, Utah, on the south slope of the La Sal Mountains. The Mines suspended operation in 2013. Some refurbishment work has been done since then. Energy Fuels has received authorization to expand the Mines to the west, along the base of the mountains, where the Mines Complex will continue to impact the La Sal Community and the groundwater. If the mine expands, it will also include the Redd Block IV Mine, which has never been developed, and the Energy Queen, a flooded wet mine on private land that last operated in 1982. *See* additional information on the adverse impacts of the La Sal Mines Complex operation at Section 3.3.6, below.

2.5.5.4. Roca Honda Mine: Tribes in New Mexico will be adversely impacted by the development of the Energy Fuels’ Roca Honda Mine on Mount Taylor. The proposed uranium mine, on U.S. Forest Service (USFS) administered land, will have major impacts on culturally significant resources and ground and surface waters. It will have major adverse impacts to the Navajo Nation and nearby Pueblo communities. The mine’s operation would add to the cumulative, and ongoing, adverse impacts from the historic uranium mining and milling industry on and near the Diné Nation.

2.5.5.5. Tribal lands and tribal members continue to be adversely impacted by the existence of abandoned mines in their communities and the historic uranium mills that continue to pollute ground and surface water, primarily in New Mexico. Tribal communities are living in challenging circumstances caused by historic decisions by the Atomic Energy Commission (AEC), the DOE, the NRC, the EPA, and other state and federal agencies and the promotion of the uranium industry, without considering and

addressing the numerous adverse impacts to public health and the environment. New and existing uranium mining and milling projects will contribute to these ongoing and inexcusable impacts.

2.6. Public Notice: *In December 2020, Congress passed the Consolidated Appropriations Act, 2021 ([Pub. L. 116-260](#)) that makes \$75,000,000 available to the Department for the Uranium Reserve Program. The Department is considering options to acquire natural uranium and convert this uranium into uranium hexafluoride that would be stored at commercial facilities in the United States.*

2.6.1. Commenters do not support the acquisition of natural uranium, conversion to uranium hexafluoride, transportation to a storage site or sites, and storage of the uranium at as-yet-unknown commercial facilities.

2.6.2. The amount of funding currently available to the DOE for the Reserve is minimal, given the need for planning, real consultation with affected tribes and communities, permitting and licensing, real environmental analyses related to the Uranium Reserve, real discussion of the use of the Reserve for atomic weapons, and other actions necessary to establish and maintain a Reserve.

2.6.3. Here, the DOE fails to identify the “commercial facilities” where the uranium hexafluoride will be stored, how the materials will be transported to and from the storage sites, how it will be stored, how long it would be stored, who will have the legal responsibility for the stored uranium, the costs of storage, what regulatory programs will apply to the storage, how the uranium hexafluoride will be sold or otherwise provided to federal or commercial entities for use, and other pertinent factors associated with the long-term storage of uranium hexafluoride. This information must be provided to the public by the DOE.

2.6.4. It is likely that the Uranium Reserve would be used to produce new types of nuclear fuel, including the misnomered High Assay Low Enriched Uranium (HALEU) fuel, to be used in so-called “advanced” nuclear reactors. HALEU is, in fact, fuel that is more highly enriched than traditional nuclear reactor fuel.

The DOE must identify the types of fuel and the uses of that fuel in various types of reactors. The DOE must also provide information on the production of new types of nuclear fuel and the environmental impacts associated with fuel production, fuel transportation, fuel storage after irradiation, fuel transportation to a permanent repository for long-term care and maintenance, and fuel storage at an—as yet to be planned, constructed, and licensed—permanent irradiated fuel repository.

2.6.5. Apparently, the DOE intends the uranium reserve to serve the needs of the nuclear weapons complex. The DOE must explain that use and how the Uranium Reserve will be used for nuclear weapons and other non-commercial reactor uses.

2.7. Public Notice: *In considering options, the Department will focus on reinvigorating domestic nuclear fuel supply chain capabilities, utilizing existing facilities, and minimizing negative disruption of market mechanisms. The Department expects the acquisition of natural uranium to result in new uranium production at existing domestic sites. The Department does not intend such new production to initiate or expand mining on Tribal lands, expand the Office of Legacy Management's (LM) Uranium Leasing Program, or expand access to additional uranium deposits located on other Federal lands. Additionally, the Department does not intend to acquire uranium or uranium hexafluoride produced from enricher underfeeding, the re-enrichment of tails, or other sources that do not support the reinvigoration of uranium production and conversion capabilities. Likewise, the Department expects to use existing domestic commercial conversion (Start Printed Page 44008) capabilities and store the uranium hexafluoride at a domestic facility.*

The Department will comply with all applicable laws, including the National Environmental Policy Act and the National Historic Preservation Act, in the proposed establishment of a uranium reserve. In addition, the Department will give careful attention to energy justice, distributive impacts, and other relevant issues in its decision-making process. This program would include meaningful engagement with stakeholders, including State, local, Tribal governments, and disadvantaged communities.

2.7.1. The DOE's Uranium Reserve raises a number of questions, which should be answered.

A. How will the establishment of a Uranium Reserve “reinvigorate domestic nuclear fuel supply chain capabilities”? What will such reinvigoration entail?

B. What are the specific “reinvigoration” goals and how will they be accomplished?

C. The nuclear fuel supply chain, particularly uranium recovery from uranium ore at a conventional mill and the in-situ leach uranium recovery, involves a number of different companies, most of which are foreign companies. What will constitute “reinvigoration” of these multi-national corporations? And, how will “reinvigoration” be measured and assessed?

D. Does the DOE plan to just purchase uranium for the Reserve to support the industry, or does the DOE envision a resurgence in production due to an increase in price of uranium to levels that would support the operation of uranium mines and uranium recovery operations into the future? This must be clarified, since only a major increase in the price of uranium will bring about another uranium boom. Such a uranium boom will, as with other periods of new uranium productivity, be short lived.

E. How will uranium mines, most of which are owned by Energy Fuels, be reinvigorated and how will the success of such reinvigoration be determined in the short-term and long-

term.

2.7.2. The DOE must explain the specific actions related to the Uranium Reserve to comply with the National Environmental Policy Act (NEPA) or the National Historic Preservation Act. The DOE must explain exactly what “energy justice” means and how “energy justice” issues will be considered and acted upon.

Does the DOE intend to develop a full Environmental Impact Statement (EIS) for the establishment of the Uranium Reserve and its associated health, safety, and environmental impacts? Such an EIS would need to include a public scoping period, an opportunity for the public to comment on a draft EIS, and the consideration of cumulative impacts of uranium mining, uranium recovery operations, uranium conversion facility, and Uranium Reserve storage facility or facilities that will be supported by the Reserve.

If the DOE is serious about complying with NEPA, then the DOE must develop a comprehensive environmental analysis of all aspects of the industrial production to create the Uranium Reserve, and the impacts related to of the use of that Uranium Reserve for nuclear power, test reactors, atomic weapons, and any other uses that the Uranium Reserve will serve.

2.7.3. The DOE has not explained how it has engaged and will continue to engage stakeholders, “including State, local, Tribal governments, and disadvantaged communities.” What efforts have already been made to engage “State, local, Tribal governments, and disadvantaged communities” in the current Uranium Reserve RFI process? Who has been contacted?

The DOE initially limited public input on the Uranium Reserve to only 30-days, initially refused to extend the comment period, and has not held any public meetings in the vicinity of affected communities. The 60-day comment period is not “meaningful engagement with stakeholders.” It is just the opposite.

Although the DOE states that, “This program would include meaningful engagement with stakeholders, including State, local, Tribal governments, and disadvantaged communities,” thus far it has failed to do so. Therefore, the DOE must outline how, exactly, it intends to provide “meaning engagement with stakeholders.”

2.7.4. The DOE must identify “all applicable laws” that the DOE intends to comply with. The DOE must explain how, exactly, it intends to apply the requirements of NEPA and the National Historic Preservation Act and implementing regulations to the establishment of the Uranium Reserve. Thus far, these are only vague, unsubstantiated commitments.

2.7.5. The DOE must explain how it intends to “give careful attention to energy justice, distributive impacts, and other relevant issues in its decision-making process.” The DOE must identify and provide the public with an opportunity to comment on specific energy

justice, distributive impacts, and other relevant issues that the DOE intends to consider in its decision-making process.

2.7.6. If the DOE is serious about complying with the National Historic Preservation Act and implementing regulations in regards to the establishment of the Uranium Reserve, it must consider the impact to historic and culturally significant resources and sites, whether or not those impacts are on federal lands or at sites licensed by the federal government. It must also include impacts to sites that have been found eligible for the National Register of Historic Places, such as the White Mesa Archaeological District, and sites or facilities regulated by NRC Agreement States.

2.8. Public Notice: *The Department is publishing this RFI to gain a better understanding of Tribal and other disadvantaged communities and stakeholder views on topics related to the establishment of a uranium reserve. Responses to the RFI will inform the Department's establishment of a uranium reserve, as well as the development of a procurement strategy for acquisition of uranium, conversion services, and storage.*

2.8.1. The DOE statement that it wishes to “gain a better understanding of tribal and other disadvantaged communities and stakeholder views on topics related to the establishment of a uranium reserve” is false and misleading. The DOE has not identified the specific Tribal and other disadvantaged communities it is referring to.

2.8.2. The DOE has not held any public meetings on tribal lands or in the vicinity of uranium production operations that are adjacent to, or in and vicinity of, tribal lands and communities. This includes, the Ute Mountain Ute, White Mesa Band, Community on White Mesa, Utah, whose lands are adjacent to the White Mesa Uranium Mill, the only operating conventional uranium mill in the U.S. This includes tribal lands and communities near Mt. Taylor, New Mexico; the uranium mines on the north and south rims of the Grand Canyon; and tribal lands near ISL uranium recovery operations.

2.9. Public Notice: *Specific Questions on Which Information Is Requested. The Department is seeking public comment on the following questions related to the establishment of a uranium reserve and the development of a procurement strategy for acquiring uranium, conversion services, and storage for the uranium. Please provide data, analyses, or other justifications for all responses.*

2.9.1. Commenters do not support the procurement of uranium, conversion services, and the storage of uranium for commercial nuclear reactors and weapons purposes, for reasons discussed herein.

3. General Questions

3.1. Public Notice: *(1) How can the establishment of a uranium reserve be structured to: Incentivize the production of uranium from domestic sources and the maintenance of*

domestic conversion services, Support the Administration's goals described in the American Jobs Plan, and Promote energy justice, including consideration of community needs and distribution of benefits pursuant to the Justice40 Initiative?

3.1.1. The establishment of a Uranium Reserve would not promote energy justice. The Uranium Reserve would continue the program of uranium production established over 85 years ago, with the attendant significant adverse impacts to human health and the environment. The DOE does not intend to change any of the current state and federal regulations and regulatory programs applicable to uranium mining and uranium recovery. The DOE, apparently, does not intend to identify health and environmental concerns associated with the Uranium Reserve, in spite of the existence of thousands of Atomic Energy Commission (AEC), NRC, DOE, BLM, USFS, EPA, state and other federal agency records documenting the specific and cumulative adverse impacts from uranium production. For the DOE to now claim that a new, improved Uranium Reserve program would promote energy justice and consider community needs is extremely dishonest and misleading.

3.1.2. The Uranium Reserve, as currently contemplated, would not establish a radiological cleanup level for uranium mines on public lands; it would not prevent the radiological and non-radiological emissions from the uranium mill near the White Mesa Ute Community; it would not prevent the emission of radon 1/4 mile from an elementary school in Utah; it would not prevent the destruction of culturally significant sites or within the White Mesa Archaeological District; it would not prevent the discharge of mine water containing radioactive materials from wet mines; it would not prevent the development and operation of a uranium mine on the north rim of the Grand Canyon that threatens springs within the Canyon; it would not prevent leaks, spills, excursions, and radiological releases from ISL uranium recovery operations; it would not improve the condition of the uranium mill sites that the DOE, or other government agency, will eventually be responsible for in perpetuity; it will not improve BLM, USFS, and state oversight over uranium mines; it will not improve NRC and NRC Agreement State oversight over uranium recovery operations; it will not reclaim the uranium mines that are part of the DOE Uranium Leasing Program; it will not change the EPA Regulation that failed to establish a radon emission standard, radon emission measurements and reporting, and corrective actions for uranium mill tailings impoundments constructed after December 15, 1989;⁵ it will not close permitted mines that have not produced ore for decades; and it will not reclaim hundreds of abandoned uranium mines, many of which were associated with the U.S. atomic weapons program.

3.2. Public Notice: (2) *How do you envision reinvigorating the domestic nuclear fuel supply chain as being responsive to the President's Justice40 Initiative—a plan to deliver 40 percent of the overall benefits of climate investments to disadvantaged communities*

⁵ <https://www.ecfr.gov/current/title-40/chapter-I/subchapter-C/part-61/subpart-W>

and inform equitable research, development, and deployment within the DOE? Please provide specific actions, the type of benefit (i.e. employment, educational opportunities, etc.) and targeted communities that would be responsive.

3.2.1. The DOE has not explained how the Uranium Reserve would reinvigorate the nuclear fuel supply chain or identified which communities would be, or might be, affected. The DOE has not explained or justified the establishment of a Uranium Reserve as a “climate investment.”

3.2.2. Contrary to the Intent of the *President's Justice40 Initiative*, the establishment of a Uranium Reserve will do nothing to tackle the climate crisis at home and abroad, while creating good-paying union jobs and equitable clean energy future, build a modern and sustainable infrastructure, or restore scientific integrity and evidence-based policymaking across the federal government. Nor, has the DOE presented the case that these goals would be furthered by the establishment of the Uranium Reserve.

3.2.3. The Uranium Reserve will not establish or improve “standards that protect our air, water, and communities.” It will not deliver “justice for communities who have been subjected to environmental harm.” It will not reduce pollution, including pollution that impacts that climate. It will not conserve and restore public lands and waters. It will not “address the disproportionate health, environmental, economic, and climate impacts on disadvantaged communities.” It will not “prioritize environmental justice and ensure a whole-of-government approach to addressing current and historical environmental injustices, including strengthening environmental justice monitoring and enforcement through new or strengthened offices at the Environmental Protection Agency, Department of Justice, and Department of Health and Human Services.”

The DOE failed to justify the establishment of the Uranium Reserve as a means to reach these goals. The Uranium Reserve, in fact, will exacerbate these long standing problems.

3.3. Public Notice: *(3) What siting and environmental justice concerns should the Department consider in the management of any waste generated through establishment of a uranium reserve? Please provide specific concerns, (e.g., siting, transportation, exposure, and other human health impacts, including knowledge of the potential impacts of exposure to the hazards associated with uranium production).*

3.3.1. It is misleading for the DOE to ask for comments on “siting and environmental justice concerns and specific concerns (e.g., siting, transportation, exposure, and other human health impacts, and hazards associated with uranium production for the Uranium Reserve. The DOE gives the impression that they have some jurisdiction and authority over the regulation and management of waste generated through establishment of a Uranium Reserve and other aspects of uranium production, but fails to reference that jurisdiction and authority. There is no information regarding what, exactly, the DOE will do about the concerns associated with uranium production for the Uranium Reserve.

3.3.2. The DOE fails to identify the sources and types of waste that would be generated through the establishment of a Uranium Reserve. The DOE fails to discuss how that waste is currently regulated by state, tribal, and federal governments and any DOE jurisdiction over such waste.

3.3.3. The DOE must provide information to the public about the waste issues and provide an opportunity for the public to comment on those issues.

3.3.4. There are numerous concerns associated with the uranium production of uranium for the Reserve, but the DOE provides no information about the possible sources of that uranium and how those concerns will be addressed.

3.3.5. Except for the uranium mines in the DOE's Uranium Leasing Program in Colorado and the DOE's responsibility for the perpetual care of decommissioned uranium mills under Title I and Title II of the Uranium Mill Tailings Radiation Control Act of 1954, as amended, the DOE does not have any legal jurisdiction over the management of waste generated by uranium mines, uranium recovery operations, or uranium conversion facilities.

3.3.6. Uranium recovery facilities are licensed by the NRC or NRC Agreement States, under the Atomic Energy Act, NRC and NRC Agreement State regulations, and EPA regulations. These include conventional uranium mills, ISL uranium recovery operations, and 11e.(2) byproduct material disposal sites. Conventional uranium mines are regulated by states and/or the federal entities that administer the lands where the mine is sited. For example, in Utah, uranium mines are regulated by the Utah Department of Oil, Gas & Mining and, if on BLM or USFS administered lands, by the respective federal agencies. Similar state and federal regulatory programs also exist in New Mexico and Colorado. Arizona only regulates uranium mines on state, tribal, and private lands; mines on public lands are permitted and regulated by the federal agency that administers those lands.

The DOE does not have jurisdiction over uranium production at ISL uranium recovery operations, conventional uranium mills, or at permitted or proposed uranium mines that provide uranium ore to the White Mesa Mill. So, it is hard to know how, exactly, the DOE intends to address numerous specific concerns, (e.g., siting, transportation, exposure, and other human health impacts) associated with uranium production for the Uranium Reserve.

3.3.7. The DOE does have jurisdiction over the Uranium Leasing Program, but has failed to properly manage those sites and that program. The DOE has failed to analyze the site-specific impacts of past, present, and potential uranium mines pursuant to DOE-issued mineral leases. The DOE has been unwilling to comply with Colorado statutes and regulations that apply to uranium mines.

3.3.8. The DOE should take a hard look at the direct and indirect impacts to one rural community in Utah that is adjacent to uranium mines that are owned by Energy Fuels. The La Sal Mines Complex is the mining operation that is most likely to be reopened if Energy Fuels restarts any of its uranium mining operations. The Complex is adjacent to the rural community of La Sal, Utah, population 339 as of 2020. Energy Fuels has plans to expand the Complex on the lower slopes of the La Sal Mountains, directly north and up-slope from the La Sal residences.^{6,7} The center of town has an elementary school, library and community building, a small store, and post office. The La Sal Mountains, largely administered by the USFS, serve a large recreational and tourist community. Some of the impacts to the La Sal Community:

- A. Jobs: Most of the mine workers would not live in La Sal, with its limited population and housing base.
- B. Money Spent in the Community: With only one small store, the amount of money spent in La Sal by mine workers would be minimal.
- C. Transportation: Workers would have to drive to the Mines from Moab (~ 32 miles) or from other distant communities in Utah and nearby Colorado. Equipment and materials would have to be brought into La Sal. Large ore trucks would use the 2-lane State Highway 46 through La Sal to Interstate Highway 191 and south to the Mill, a distance of 68 miles. The ore trucks stir up dust on the dirt roads leading to and from the mines. The ore trucks are hazardous to anyone spending any time near a truck loaded with ore, due to the radioactivity of the ore.
- D. Noise: There will be noise from additional large-truck traffic through the community.
- E. Noise: Many of ventilation shafts near the town have fans at the top of the shafts, which bring fresh air into the underground mine workings and/or vent radon gas and radioactive and non-radioactive particulates from the underground mine workings. These fans create a very loud, roaring, steady industrial noise that can be heard a mile or more away, depending on the topography. Energy Fuels intends to expand the mine westward and install new ventilation shafts, which will create more noise during mine operations. This noise also impacts domestic livestock and wildlife in a wide area surrounding the Mines.
- F. Noise: There will be noise from additional road building and drilling associated with exploration, ground water monitoring and dewatering, and ventilation shaft installation.

⁶ https://eplanning.blm.gov/public_projects/nepa/100215/135457/165618/Appendix_A_Figures.pdf

⁷ <https://www.fs.usda.gov/project/?project=34565>

- G. **Additional Waste Rock:** Additional soil and rock from the expansion of the mine underground will be placed on existing waste rock piles at the Pandora, La Sal, and Beaver Shaft Mines. The waste rock contains uranium and uranium progeny and hazardous non-radioactive materials, such as arsenic. The radioactive levels of the waste rock piles are not monitored during operation. Radioactive and non-radioactive particulates and radon from the piles are dispersed by wind and water. The Beaver Shaft pile is adjacent to a cattle feed lot. Although, eventually, an earthen cover will be placed on the piles, there are no provisions for long-term monitoring or maintenance. Eventually the waste rock piles will erode and disperse, since there will be no government or private entity responsible for the piles, which will remain radioactive and hazardous for millions of years.
- H. **Regulatory Responsibility:** Most of the surface disturbance of the La Sal Mines Complex is on BLM administered land. The mines are also regulated by the Utah Division of Oil, Gas & Mining. These agencies do not have regulations specific to uranium mines and have not established radiological remediation standards for mine sites during operation or after reclamation.
- I. **Radon Emissions:** The mine entrances, ventilation shafts, waste rock piles, ore pads, and ore piles emit radon and radioactive and non-radioactive particulates. Some of the waste rock piles are adjacent to dirt roads through public lands (La Sal and Snowball Mines), where there are no fences or warning or keep-out signs. Uranium and other radioactive and hazardous particulates, such as arsenic, are dispersed off-site by wind and water.
- Most significantly, radon and radioactive particulates are emitted from a ventilation shaft one quarter (1/4) mile up-slope from the local elementary school when the Beaver Shaft is operating. The shaft is also 1/4 mile up-slope from the library and community center, store, and post office.
- As the La Sal Mine expands to the west, additional ventilation shafts will be installed. These shafts will emit radon up-slope from community residences, adding to the overall exposure of the community to radon and radon progeny.
- J. **Groundwater:** The expansion of the La Sal Mines Complex to the west will also impact the groundwater on the south slope of the La Sal Mountains and the local domestic wells that the community relies on. The BLM has not assessed the impacts of the expansion of the mine operation on existing domestic wells west of the Beaver Shaft.
- K. **Development of Redd Block IV and Energy Queen Mines:** As the Beaver Shaft Mine expands to the west, Energy Fuels has plans to develop two adjacent permitted

uranium mines, the Redd Block IV⁸ and the Energy Queen Mine.⁹ The Redd Bock IV Mine has never been developed; the Energy Queen Mine last operated in 1982. Both of these mines are close to human activities, habitations, and domestic wells. The Energy Queen is currently flooded and operation of the mine will require that millions of gallons of mine water will be pumped, treated, and discharged into a nearby wash. A new water treatment system will have to be installed. Radioactive materials remain in the old, unlined water treatment ponds. Mine water treatment and off-site discharge will continue during the life of the mine. The impacts of the development and operation of these mines has not been assessed by the BLM, particularly the impacts on groundwater and cumulative exposure to radon and radioactive particulates.

- L. Worker Radon Exposure: When uranium mines are on standby, radon is not vented from the underground mine workings. When the mines are reopened after long periods of non-operation, it takes time for the accumulated radon to be vented from the mine working. In about 2009, when the Beaver Shaft Mine was reopened after several years of non-operation, MSHA inspectors ordered the workers out of the mine due to high levels of radon.

Workers are routinely exposed to radon and radioactive particulates both above ground and under ground. A common reason for La Sal Mines Complex operator violations of MSHA mine safety regulations is associated with worker exposure to radon in the mine workings. There are currently no on-going studies of worker health related to currently permitted uranium mining operations in the U.S.

- M. Post Mining: If the La Sal Mines commence operation and expand to supply uranium for the Reserve, it is not known how long they will operate. If the Redd Block IV and Energy Queen Mines are developed to supply ore to the reserve, it is not known how long they will operate. If these mines suspend operation after supplying ore to the Reserve, they will, most likely not be reclaimed—they will return to the current standby status. Reclamation of the mines will continue to be delayed indefinitely.
- N. Social and Psychological Impacts: There is also the negative psychological impacts related to living and working in a community that has been, and will continue to be, adversely impacted by the production of uranium, dispersal of radionuclides into the community, and the permanent storage of uranium-bearing waste rock adjacent to the community.

In sum, there will be numerous, significant adverse impacts to the La Sal community, and few benefits. If the DOE actually consulted with the La Sal community, the DOE would discover other adverse impacts to the community.

⁸ <https://ogm.utah.gov/minerals/MineralsPDO/angularmineralsfilesbypermit.php?S0370046>

⁹ <https://ogm.utah.gov/minerals/MineralsPDO/angularmineralsfilesbypermit.php?M0370043>

3.3.9. The DOE must fully analyze the impacts to the communities adjacent to uranium mines and mills and ISL uranium recovery operations.

3.3.10. The DOE is also responsible for the long-term care and maintenance of uranium mill tailings at conventional uranium mills and 11e.(2) byproduct material disposal sites. The Uranium Reserve will only serve to increase the amount of mill tailings that must be kept under perpetual care and maintenance. Some of radon barriers at these sites have already degraded and require repair. All of the mill tailings repositories will eventually require active intervention to maintain the integrity of the covers. In perpetuity is a very long time.

3.3.11. The BLM, USFS, and some of the state mining regulatory agencies, including Utah, do not have specific regulations applicable to uranium mines. Uranium mines are regulated as hard rock mines, with no specific requirements that take into consideration the radiological impacts of uranium and its progeny or other aspects of uranium mining that are unique, including the uranium boom-and-bust cycle. Uranium mining currently, and historically, has been the least regulated part of the nuclear fuel chain. There are EPA regulations applicable to air quality, ground and surface water, and radon emissions at uranium mines. There are Mine Safety and Health Administration (MSHA) regulations applicable to worker health and safety. However, since the BLM and USFS regulate uranium mines as hard rock mines, there are no federal radiological clean-up or reclamation standards. There are no provisions for long-term care for uranium mine waste, sometimes referred to as “development rock.”

3.3.12. If uranium from conventional uranium mines is used for the Uranium Reserve, the mine or mines would commence operation after an extended period of non-operation and then, most likely, close down for another lengthy period of non-operation, or standby. Uranium mines in Utah, Colorado, and Arizona have had more periods of non-operation than operation since 1981. The last conventional uranium mining that took place in Arizona and Utah ended between 2009 and 2015, as mines were placed on standby. Only one mine was shut down in anticipation of reclamation, the Arizona 1 Mine.

Uranium mines that have been idle for many years, sometimes decades, are still permitted by state and federal regulators. The BLM and USFS do not limit the time a uranium mine can remain on standby without producing any ore. Utah allows for extended periods of non-operation. Colorado and New Mexico have limits on the number of years that a mine is idle, and can force a mine owner to reclaim a mine that has not produced ore for an extended period of time. This affects Utah and Arizona the most, since the mines that have produced uranium ore for the White Mesa Mill during the last uranium boom (2007 to 2015) were in Arizona and Utah.

There are a number of impacts associated with lengthy periods of uranium mine non-operation. The ones that Uranium Watch staff has observed and has personal knowledge of include:

- Infrequent inspection by state and federal regulators. Often 2 or more years between inspections
- Emission of radon from ventilation shafts that were not blocked. (This was corrected in Utah at the La Sal Mines Complex in 2013)
- Hazardous conditions at the mine sites, including collapsed portal
- Dispersal of dust and radionuclides from barium chloride treatment ponds that dry up when mine water is not pumped from the mine, treated, and discharged
- Erosion of waste rock piles
- Lack of fencing and signage at uranium mine sites
- Accumulation of old equipment, junk, and trash
- Unlocked and decrepit buildings
- Unlocked buildings with hazardous materials and chemicals
- No control of materials and radionuclides that are dispersed on- and off-site by wind and water
- No radiological assessment or remedial action standard
- Native animals and livestock allowed to wander at will on mine site
- Disposal of dead livestock adjacent to waste rock piles
- Mines that are not in condition to restart without major work or permitting
- Reclamation is delayed indefinitely. There are two mines on standby in Utah that have not operated for 30 years or more. Others have been on standby from 8 to 12 years, with no ore production.

If any ore is produced from currently permitted uranium mines in Utah and Arizona, it would only delay the much needed reclamation of these mines.

3.3.13. The DOE proposes to store the reserved uranium at an existing nuclear facility, but fails to identify a facility, the entity that regulates that facility, and how the Uranium Reserve would be regulated under federal statutes and regulations.

3.3.14. In regards to siting, there are existing permitted conventional uranium mines—all of which are currently on standby or under development—in Utah, Arizona, and Colorado. It is probable that no new mines would be sited, but existing permitted mines would be relied on. There are also existing ISL operations in Wyoming, Nebraska, South Dakota, and Texas that are licensed by the NRC or NRC Agreement States. There is one operating conventional uranium mill and one permitted uranium conversion facility.

It is highly unlikely that the Shootaring Canyon Uranium Mill, which has not operated since 1982, would reopen, since the owner must construct a new tailings impoundment before any ore can be processed and the Mill owner does not have any uranium mines that are permitted to operate. Therefore, it is most likely that uranium will be mined and recovered at existing sites. Given the number of existing uranium mines and costs and length of time to permit and develop a productive uranium mine, it is unlikely that any new conventional uranium mines or mills or new ISL uranium recovery operations will be sited. That still has not prevented new foreign companies from establishing uranium

mine claims on public lands in Colorado, Utah, and other states and conducting uranium exploration to encourage investments.

3.3.15. Given the lack of DOE jurisdiction over uranium mining and milling, uranium conversion, and the storage of materials in the uranium reserve at a nuclear facility, except for the DOE Leasing Program and long-term surveillance and care of uranium mill tailings sites, and it is hard to know how the DOE would effectively address siting, transportation, exposure, other human health impacts, and other issues and concerns related to the production of uranium for the Reserve.

Does the DOE intend to propose amendments to current state and/or federal regulations applicable to uranium mining and milling, uranium conversion, transportation, and storage of a uranium reserve at an existing nuclear facility?

3.4. Public Notice: *Environmental Justice, Siting, Transportation, Exposure, and Other Human Health Impacts and Concerns*

3.4.1. The DOE must consider all environmental justice, siting, transportation, exposure, and other human health impacts and concerns related to the establishment of a Uranium Reserve, not just those associated with the management of waste. All impacts to human health and the environment must be considered. The DOE has access to, or should have access to, thousands of state and federal documents related to permitted mines and a propose uranium mine in New Mexico, yet to be approved by the USFS. These extensive state and federal records should provide the DOE with pertinent information regarding current and historic environmental justice, siting, transportation, exposure, and other human health impacts and concerns related to uranium production. As an agency that is supposed to protect public health and safety and the environment, the DOE must analyze those records to explore and document the current and cumulative environmental justice, siting, transportation, exposure, and other human health impacts and concerns related to the establishment of a Uranium Reserve. This is how the DOE should spend it money.

3.4.2. Concerns: The uranium mine that Energy Fuels is really ready to restart as an active mine is the La Sal Mines Complex (Utah Mine ID M0370026).¹⁰ The mines are in the vicinity of the small community of La Sal, Utah, on the south slope of the La Sal Mountains. During mine operation, radon is emitted about 1/4 mile from the town center, which includes an elementary school, library, community center, store, and post office. If the Mines Complex is expanded as planned, additional radon vents will be installed near the community and the mining operation. In addition to venting radon in the vicinity of homes, an elementary school, other community buildings, and livestock feedlots, the La Sal Mines Complex will threaten domestic water supplies that are obtained from wells in the vicinity of the planned expansion. *See*, also, discussion at Section 3.3.8, above.

¹⁰ <https://ogm.utah.gov/minerals/MineralsPDO/angularmineralsfilesbypermit.php?M0370026>

3.4.3. There are a number of issues related to the operation of uranium mines. What the DOE can do is request that the Department of Interior, BLM, and the Department of Agriculture, USFS, amend their regulations to provide for more protection of public health and the environment and seriously take into consideration Environmental Justice issues. These issues and proposals include:

- A. The BLM and USFS must establish an electronic document control system that makes readily available to the public, industry, and local, state, tribal, and federal entities the documents related to mining on public lands and other resource extraction enterprises, including oil and gas development. The BLM and USFS permit and regulate these operations, yet the public, industry, and local, state, and federal government representatives and agency staff person do not have a means to view relevant regulatory program documents unless they go to a local BLM or USFS office or submit a Freedom of Information Act (FOIA) Request. There are some records available online associated with Plans of Operation and NEPA actions, but inspection reports, correspondence, and other relevant records are not readily available for viewing. This makes it difficult for interested persons and government representatives and entities to understand the operational status and issues related to specific mining operations. As a result, the agencies do not always enforce applicable regulations; for example, the BLM did not enforce the requirement for Interim Management Plans for uranium mines in southeast Utah from 1981 to 2014, when a member of the public brought that oversight to the attention of the local BLM office. The State of Utah makes documents related to mining operations readily available to the public.¹¹
- B. The BLM and USFS should also make publicly available online documents related to exploration permits.
- C. The DOE should request that the BLM and USFS issue a regulation that limits the time that a uranium mine can remain in a non-operational, or standby status. Uranium mining companies are delaying reclamation of mines that will likely never operate again, no matter what the price of uranium. The BLM and USFS should require that any mine on standby that intends to reopen the future must maintain all relevant permits and do any work necessary to assure that the mine can reopen without any major work or new or renewed permits; for example, the Rim Mine¹² in southeast Utah on BLM administered land, which last operated in 2009. Energy Fuels, the mine owner, must install groundwater monitoring wells if the Rim Mine is to reopen. These wells have not been installed, and the mine and equipment are not in good condition and ready for operation. Yet, the mine continues to remain on standby.

¹¹ <https://ogm.utah.gov/minerals/MineralsPDO/angularmineralsfilesbypermtinfo.php>

¹² <https://ogm.utah.gov/minerals/MineralsPDO/angularmineralsfilesbypermit.php?M0370006>

- D. The BLM and USFS should require periodic assessments of the radiological contaminants at the mine site, including waste rock piles, roads, ore pads and stockpiles, near vents for the intake of fresh air and emissions of radon, and other areas of the mine site and nearby of-site areas. There should be limits on the radiological contamination on the surface during operation, during periods of non-operation, and during and after reclamation.
- E. The BLM and USFS must not allow the production of uranium within 2 miles of human habitation, buildings, schools, and human and food production activities, such as livestock grazing or feed lots.
- F. The BLM and USFS should establish a radiological cleanup standard for periods of operation and after reclamation.
- G. The BLM, USFS, and states should require that all barium chloride treatment ponds be lined; when they are dry, that any materials are removed and disposed of at the uranium mill; that pond liners be properly disposed of at a facility licensed to dispose of radioactive contaminated materials, not at a local landfill without the landfill operator's knowledge, as happened with the pond liner for the Energy Queen Mine in San Juan County, Utah. The liner was disposed of at a Grand County, Utah, landfill without the knowledge of the County and specific authorization.

3.5. Public Notice: *(4) Are there additional factors or considerations that should be taken into account regarding the establishment of a uranium reserve?*

3.5.1. The DOE should consider the cumulative impacts associated with uranium mining and milling in the U.S., from 1946 to the present. Recently, the NRC has made publicly available thousands of historic documents related to the licensing of uranium recovery operations prior to 1999. The NRC has other records related to uranium recovery operations, including their Waste Management Files. These are now available on the NRC Web-based ADAMS electronic reading room.¹³

The DOE, EPA, NRC Agreement States, and other federal agencies, state health departments, and other entities also have historic records documenting the historic and current impacts of uranium milling and other uranium recovery operations in the U.S. The DOE should fund a comprehensive study of all U.S. uranium recovery operations and their impacts.

4. Limitations and/or Restrictions

Public Notice: *The Department is considering the following factors as we develop our approach to acquire and convert natural uranium and to store uranium hexafluoride in commercial facilities:*

¹³ <https://adams.nrc.gov/wba/>

4.1. Public Notice: *Uranium must be newly-produced in the U.S. from deposits at an existing site; uranium that was produced previously that is currently held in inventory will not be eligible.*

4.1.1. Requiring newly-produced uranium and rejecting uranium currently held in inventory does not make sense. There are existing inventories of uranium; for example, Energy Fuels will have an existing stockpile of 691,000 pounds of U₃O₈ at year-end.

4.1.2. The DOE must explain why those stockpiles should not be used for a Uranium Reserve and what will happen to those stockpiles, given the low price of uranium on the open market. Energy Fuels often retains the processed uranium in the Mill circuit. If there is new production of uranium, the previously processed uranium will have to be removed and stored in another manner. Does the White Mesa Mill have room at the mill to store stockpiled uranium as well as produce new stocks of uranium that will be used for the Uranium Reserve?

The DOE must evaluate the impacts related to the storage of thousands of pounds of previously produced uranium indefinitely, while new stocks of uranium are produced for the proposed Uranium Reserve.

4.1.3. By restricting the uranium reserve to newly-produced uranium, the DOE is promoting the production of additional uranium mill tailings, which must be kept under government control in perpetuity. The DOE is promoting increased emissions of radioactive and non-radioactive particulates and gases to the environment from uranium mines, a conventional uranium mill, ISL uranium recovery operations, and a uranium conversion operation. The DOE is unnecessarily increasing the amount of waste and the health, safety and environmental impacts from uranium mining, milling, If additional tailings impoundments (Cells 5A and 5B) are constructed at the White Mesa Mill it will destroy additional significant cultural resources at the Mill site, which include per-historic pit houses, kivas, burial sites, middens, food storage sites, and artifacts. *See* archaeological site investigations at the White Mesa Mill.¹⁴ The DOE can obtain the Cultural Resources inventory associated with the construction of Cells 5A and 5B from the Utah Division of Waste Management and Radiation Control.¹⁵

4.2. Public Notice: *Uranium newly-produced from “alternate feed” materials are eligible to be bid for sale.*

¹⁴ <https://www.nrc.gov/docs/ML2009/ML20096G542.pdf>

¹⁵ http://eqedocs.utah.gov/TempEDocsFiles/164015318_164015318_Publish%201_ENERGY%20FUELS%20RESOURCES%20%60USA%60%20INC%20-%20UT1900479_License_DRC-2018-009732.pdf

4.2.1. The DOE should not accept uranium from the processing of so-called “alternate feed” materials. The White Mesa Mill was designed and licensed to receive and process uranium ore from conventional uranium mines on the Colorado Plateau. It was not designed to receive and process uranium-bearing wastes from other mineral processing operations and other waste processing operations. The wastes that are disposed of at a conventional uranium mill must meet the Atomic Energy Act “11e.(2) byproduct material”:

The term “byproduct material” means —

- (2) the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content.

The NRC definition of byproduct material at 10 C.F.R. § 40.4:

Byproduct Material means the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content, including discrete surface wastes resulting from uranium solution extraction processes. Underground ore bodies depleted by such solution extraction operations do not constitute "byproduct material" within this definition.

The EPA definition of Uranium byproduct material at 40 C.F.R. § 192.31(b):

(b) Uranium byproduct material means the tailings or wastes produced by the extraction or concentration of uranium from any ore processed primarily for its source material content. Ore bodies depleted by uranium solution extraction operations and which remain underground do not constitute “byproduct material” for the purpose of this subpart.

All of these definitions state that the byproduct material wastes are produced from the extraction of uranium from “any ore.” They do not state that any uranium-bearing materials, such as the wastes from other mineral processing operations, are “ore.” Or, that the wastes from the processing of any uranium bearing waste materials meet the definition of uranium byproduct material. The Atomic Energy Act of 1954, as amended by the Uranium Mill Tailings Radiation Control Act of 1978 (AEA); the NRC 10 C.F.R. Part 40 Regulations; the EPA 40 C.F.R. Part 192 and Part 61 Subpart W Regulations; and the environmental assessments associated with the development of the NRC and EPA regulations never contemplated the processing of feed materials other than natural ores at a conventional uranium mill. The Atomic Energy Commission, the predecessor agency of the DOE, has a long history that demonstrates that the AEC and, therefore, the DOE have determined that “ore” is a native, unprocessed material that is removed from its place

in nature. Therefore, according to the AEA, NRC and EPA Regulations, and the AEC, the wastes from the processing of “alternate feed” materials do not meet the definition of 11.e.(2) byproduct material and should not be disposed of at the licensed uranium mill. See Exhibit D.

Therefore, DOE has no legal basis for purchasing uranium from the processing of feed materials that are not “ore” at a licensed uranium mill.

4.3. Public Notice: *Provision of uranium must not require (1) initiation or expansion of mining on Tribal lands; (2) expansion of the Office of Legacy Management's Uranium Leasing Program; or (3) expansion of access to additional uranium deposits located on other Federal lands.*

4.3.1. The Limitation states that the provision of uranium “must not require (1) initiation or expansion of mining on Tribal lands.” So, it is, apparently, acceptable that uranium mining is initiated or expanded on tribal lands, just not “require” it. Commenters do not agree. Currently, as far as we know, there is no production of uranium on tribal lands. But, it is not acceptable for new mining to commence on tribal lands to supply uranium to the proposed Uranium Reserve. The development of a Uranium Reserve should not compound the numerous, and still ongoing, adverse impacts from uranium mining and milling to tribal communities, tribal workers, tribal governments, tribal lands, tribal waters, tribal air quality, tribal mental and physical health, tribal domestic animals, tribal plants and agricultural products, wildlife that tribes depend on, tribal sacred and culturally significant sites and landscapes, and other aspects of tribal life and environments.

4.3.2. This Limitation ignores the production of uranium adjacent to, or directly impacting, tribal lands and communities. The Limitation ignores the milling of uranium at the only operating conventional uranium mill in the U.S. on lands adjacent to the White Mesa Band of the Ute Mt. Ute Tribe in southeast Utah. It ignores the the proposed mining of uranium on Mt. Taylor near Pueblo and Navajo lands and communities and on lands held sacred to those communities in New Mexico. It ignores the development of the Pinyon Plain Mine (formerly known as the Canyon Mine) on the south rim of the Grand Canyon that will impact the Grand Canyon and Havasupai Tribe living in the Canyon. It ignores the ISL uranium recovery operations near Sioux tribal lands in South Dakota. It ignores the on-going or potential radiological emissions from these operations. It ignores the contamination of ground and surface water.

4.3.3. If the DOE establishes a Uranium Reserve, it should include a Limitation and/or Restrictions that states “The Provision of uranium should not include uranium mining or uranium recovery on tribal lands or in areas that are adjacent to, or will impact, tribal lands, tribal communities, tribal ground or surface water, and culturally significant sites, landscapes, and resources.

4.3.4. The Restrictions and Limitations state the Uranium Reserve “must not require the expansion of the Office of Legacy Management's Uranium Leasing Program” or “expansion of access to additional uranium deposits located on other Federal lands.” However, it does not preclude the expansion of the Uranium Leasing Program or the expansion of access to additional uranium deposits locate on other federal lands. The DOE must justify the need for the expansion of the Office of Legacy Management's Uranium Leasing Program and the expansion of access to additional uranium deposits located on other federal lands.

There is no information in the Public Notice on the Leasing Program or locatable uranium deposits on federal lands and how or why such access might need to be expanded. There has not been any uranium mining activities on lands under the DOE Uranium Lease Program for decades. There are currently thousands of uranium mine claims and known sources of uranium on BLM and USFS lands where access is not restricted in any way. There are existing, permitted uranium mines that have been on standby from 8 to almost 40 years, and there are licensed ISL uranium recovery operations. There is no need for expansion of the DOE Uranium Leasing Program or access to locatable minerals on other public lands.

4.4. Public Notice: *Provision of conversion services must utilize existing domestic commercial facilities.*

4.4.1. The DOE must provide a full environmental analysis of the use of the existing U.S. domestic uranium conversion facility, which is currently not operating, to provide uranium hexafluoride to the Uranium Reserve.

4.5. Public Notice: The entity providing uranium, conversion services, or storage must be U.S.-owned or controlled.

4.5.1. The DOE should acknowledge that most uranium mining and uranium recovery operations (conventional uranium mills and ISL uranium recovery operations) are, in fact, foreign owned. The foreign companies have U.S. subsidiaries. Therefore, any Uranium Reserve, in fact, will support foreign-owned enterprises.

4.5.2. In discussing uranium industry ownership, it is unclear if a foreign company owns a uranium mine or uranium recovery operation in the U.S. and that company also produces uranium in one or more other countries, if that production considered “foreign competition”? The DOE must clarify this.

4.6. Public Notice: *Uranium and conversion services must not carry any peaceful-use or end-use restrictions.*

4.6.1. The DOE must explain the reason for this Restriction or Limitation. What, exactly, are the non-peaceful-uses or non-peaceful end-uses that the DOE wants to provide for? The DOE must clearly state the uses or end-uses that the DOE envisions for

the Uranium Reserve. The public should have the opportunity to comment on those non-peaceful-uses or non-peaceful end-uses.

4.6.2. The DOE must justify the need for the a Uranium Reserve to serve non-peaceful-uses or non-peaceful end-uses, the legal and regulatory structures that would authorize such uses, the industrial processes involved, the waste involved, and other aspects of non-peaceful uses and end-uses.

4.7. Public Notice: *Do the limitations/restrictions support the Department's objective to incentivize the production of U.S. uranium and conversion services? Why or why not?*

4.7.1. For reasons set forth herein, Commenters do not support the establishment of a Uranium Reserve and DOE's objective to incentivize the production of U.S. uranium and conversion services. The Uranium Reserve and the production of uranium in the U.S. do not serve the purposes of the American Jobs Program and other goals of the Administration. A Uranium Reserve would not address the climate crisis; create safe, well paying, and unionized jobs; or have any meaningful impact on national security. As discussed herein, the creation of a Uranium Reserve would not support environmental justice initiatives, address current or long-standing and racial injustices, create a "clean infrastructure," support "clean energy initiatives, or support the health, safety, and well being of disadvantaged communities, including rural and tribal communities. Instead, it would exacerbate existing adverse impacts to the environment, to uranium worker health, and to the rural, tribal, and other communities that it supposed to help.

4.8. Public Notice: *Should any of these limitations/restrictions be modified or eliminated? Include your justification for any modification or elimination.*

4.8.1. The Uranium Reserve Limitations and Restrictions should be amended to read: Uranium and conversion services must be limited to only peaceful-uses or end-uses. The DOE has failed to explain and justify the need for the Uranium Reserve for non-peaceful uses.

The DOE has failed to explain how the Uranium Reserve will be maintained, allocated, and used for non-peaceful uses. The DOE has not explained how a Uranium Reserve that is stored at a site licensed for domestic nuclear purposed would also be used to store uranium for use for non-peaceful purposes. The DOE should not incentivize uranium production through the Uranium Reserve for non-peaceful uses; that is, nuclear weapons and depleted uranium munitions.

4.9. Public Notice: *Please describe any additional limitations/restrictions (other than cost) that you believe the Department should consider and include your justification.*

4.9.1. As discussed above, the DOE failed to justify the establishment of the Uranium Reserve as a means to reach the goals of the *President's Justice40 Initiative*. The DOE

has not presented case that these goals would be furthered by the establishment of the Uranium Reserve.

Therefore, the creation of a Uranium Reserve has no rational policy or legal justification.

Contrary to the Intent of the *President's Justice40 Initiative*, the establishment of a Uranium Reserve will do nothing to tackle the climate crisis at home and abroad, while creating good-paying union jobs and equitable clean energy future, build a modern and sustainable infrastructure, or restore scientific integrity and evidence-based policymaking across the federal government.

The Uranium Reserve will not establish or improve “standards that protect our air, water, and communities.” It will not deliver “justice for communities who have been subjected to environmental harm.” It will not reduce pollution, including pollution that impacts the climate. It will not conserve and restore public lands and waters. It will not “address the disproportionate health, environmental, economic, and climate impacts on disadvantaged communities.” It will not “prioritize environmental justice and ensure a whole-of-government approach to addressing current and historical environmental injustices, including strengthening environmental justice monitoring and enforcement through new or strengthened offices at the EPA, Department of Justice, and Department of Health and Human Services.

4.10. Public Notice: *Please describe any additional considerations (other than cost) that you believe the Department should consider and include your justification.*

4.10.1. The DOE should not accept uranium that comes from the White Mesa Uranium Mill, San Juan County, Utah, due to the short-term and long-term adverse impacts to the groundwater, air quality, a nearby tribal community, significant cultural resources, etc., as discussed herein.

4.10.2. The DOE should not accept uranium that comes from any mine that operates within 5 miles of a community, due to 1) radioactive emissions close to schools, homes, businesses, and livestock feed lots; 2) potential groundwater contamination; 3) noise; 4) lengthy periods of non-operation, essentially delaying reclamation permanently; 5) failure of state and federal agencies to establish radiological contamination limits at mine sites and vicinity during and after operation; 6) failure of state and federal agencies to require lined waste rock impoundments, min-water treatment ponds, and ore pads; 7) inadequate interim management plans; 8) failure to control site access; 9) and other adverse impacts to nearby communities.

4.10.3. The DOE cannot establish a Uranium Reserve until the DOE describes, with particularity and specificity, exactly how the Uranium Reserve meets the goals of the *President's Justice40 Initiative*.

4.11. Public Notice: *Please describe any legal, regulatory, and policy issues, including environmental justice concerns, that should be addressed to enable the implementation of the Uranium Reserve Program under the Consolidated Appropriations Act, 2021 ([Pub. L. 116-260](#)).*

4.11.1. As discussed above, the establishment of a Uranium Reserve has many at yet to be identified legal, regulatory, policy issues. The DOE failed to provide the public with a Background Document that provided the most basic information on the proposed Uranium Reserve and applicable legal, regulatory, policy issues that the DOE is aware of. Information about how the Uranium Reserve would be implemented and how it would impact local communities and the sites that might provide uranium for the reserve was not available for public discussion. The DOE's failed to carry out its commitment to provide "meaningful engagement with stakeholders, including State, local, Tribal governments, and disadvantaged communities."

Therefore, the DOE must provide some basic information about the proposed Uranium Reserve and its impacts for additional public comment. The DOE must hold public meetings in the vicinity of potentially impacted communities near the White Mesa Mill, permitted uranium mines in Utah and Arizona, licensed ISL operations, and the uranium conversion facility in Illinois.

4.11.2. The DOE must explain exactly how it intends to implement the National Environmental Policy Act in regards to the development of the Uranium Reserve.

4.11.3. The DOE must not use the Uranium Reserve for non-peaceful uses or end uses, such as atomic weapons and depleted uranium munitions. The DOE has failed to provided sufficient information and justification for such uses.

Thank you for this opportunity to comment.

Sincerely,

Sarah Fields
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And ~

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Attachments: Exhibits A, B, C, and D.