

## SCOPING COMMENTS

### U.S. DEPARTMENT OF ENERGY URANIUM LEASING PROGRAM PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT

The following scoping comments on the U.S. Department of Energy (DOE) Uranium Leasing Program (ULP) Programmatic Environmental Impact Statement (PEIS) are submitted on behalf of Uranium Watch, Living Rivers, Grand Canyon Trust, and the Glen Canyon Group of the Sierra Club.

The PEIS is being developed by the DOE Office of Legacy Management (LM) in compliance with the National Environmental Policy Act (NEPA). The leasing program currently consists of 38 lease tracts, all located in southwestern Colorado. The PEIS would replace and update the July 2007 Uranium Leasing Program (ULP) Programmatic Environmental Assessment (PEA) (DOE/EA-1535).

These comments include *Scoping Comments on the Ecological Effects of Uranium Mining Mesa, Montrose, and San Miguel Counties, Colorado, USA*, submitted by Joseph C. Leyda MA, Leyda Consulting, Inc., Professional Wetland Science, Vancouver, Washington. Exhibit A.

#### 1. PEIS ALTERNATIVES

1.1. *Alternative 1: DOE would terminate the leases for the ULP; lessees would be required to reclaim their operations on their respective leases; and, once final reclamation activities were completed, DOE would continue its management of the withdrawn lands, without leasing, in accordance with applicable requirements.*

COMMENT: Alternative 1 must be the preferred alternative. The DOE should terminate the leases for the ULP, reclaim any active claims, and manage the withdrawn lands, without leasing, into the future. Termination would protect human health and the environment from the numerous impacts from uranium mining operations and assure the long-term care of the uranium mine sites. The economic and environmental benefits from termination and full cleanup and reclamation of all lease tracts would far outweigh the dubious possibility of active mine operations and ore production on the lease tracts within the remainder of the 10-year lease period.

1.2. *Alternative 2: DOE would terminate the leases for the ULP; lessees would be required to reclaim their operations on their respective leases; and, once final reclamation activities were completed, all lands would be restored to the public domain with the approval of the Bureau of Land Management (BLM) in the Department of the Interior. The BLM would administer these lands and DOE's leasing program would end.*

COMMENT: Though similar to Alternative 1, this alternative would return the land to the BLM and open up the previously withdrawn land to uranium claims and mining

operations under Bureau of Land Management (BLM) authority. As a result, the reclaimed sites would not continue under the long-term care, surveillance, and monitoring of the DOE and there would be future impacts (including cumulative impacts) from uranium mining operations under the BLM regulatory program.

1.3. Alternative 3: *DOE would continue the ULP as it existed before the issuance of the July 2007 PEA/FONSI; the 13 then-active leases would be continued for the ten-year period covered in this PEA and FONSI, or for another reasonable period; and DOE would terminate the leases for the remaining lease tracts. Regarding the leases that would be terminated, DOE would follow the procedures proposed either in alternative (1) above, or in alternative (2) above. Regarding the 13 leases that would be continued, the lessees would be allowed to file plans to explore for and mine uranium and vanadium ore reserves on their respective tracts, and to engage in reclamation activities on those tracts. For those 13 leases, DOE would analyze, among other things, the reasonably foreseeable environmental impacts, including the site-specific impacts, of leasing, exploration, mining activities (including any resumption of mining activities that were previously approved), transportation, and reclamation, as well as cumulative impacts resulting from the incremental impacts of those actions when added to other past, present, or reasonably foreseeable future actions. DOE would explore reasonable mitigation measures to avoid or minimize potential environmental impacts.*

COMMENT: This alternative is not acceptable. There is no justification for the continuation of the leasing of the 13 then-active lease tracts. The majority of those lease tract mines were abandoned in the early 1980s; one tract ceased activity in 1990; and four tracts ceased production in 2005 (3) or in the 2nd quarter of 2006 (1). There has been no production of ore since the 2007 PEA, and it is unlikely that ore will be produced from any of the mines in the foreseeable future. The State of Colorado Division of Reclamation, Mining, and Safety (DRMS) requires the submittal of a Environmental Protection Plan prior to the reopening of any of the leased mines, pursuant to HB 08-1161. Thus far, the Cotter Corporation has submitted an EPP for one of its mines, C-JD-8.<sup>1</sup>

1.4. Alternative 4: *DOE would continue the ULP for the expanded number of leases in the PEA and FONSI; the expanded number of leases would be continued for the ten-year period covered by the PEA and FONSI, or for another reasonable period. For all of those ULP leases, the lessees would be allowed to file plans to explore for and mine uranium and vanadium ore reserves on their respective tracts, and to engage in reclamation activities on those tracts. DOE would analyze, among other things, the reasonably foreseeable environmental impacts, including the site-specific impacts, of leasing, exploration, mining activities (including any resumption of mining activities that were previously approved), transportation, and reclamation, as well as cumulative impacts resulting from the incremental impacts of those actions when added to other past, present,*

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<sup>1</sup> <http://mining.state.co.us/UraniumMininginColorado.pdf>

*and reasonably foreseeable future actions. DOE would explore reasonable mitigation measures to avoid or minimize potential environmental impacts.*

COMMENT: This alternative is not acceptable. There is no justification for the continuation of the leasing of the 13 then-active lease tracts and any leases that may have been arranged for the additional lease tracts approved in 2007. Since 2007 no new mines have been permitted and no ore has been produced from the mines that had been permitted by the DRMS. The most economically and environmentally beneficial action would be the closing down and full reclamation of all lease tracts, including supplemental remediation at previously reclaimed sites. Further, the PEA failed to adequately characterize and evaluate the environmental impacts of the existing and expanded leases and does not support the Finding of No Significant Impact (FONSI).

1.5. Alternative 5: *DOE would continue the ULP exactly as it was approved in the PEA and FONSI, and would continue to approve plans by lessees as it has done since the issuance of the PEA and FONSI.*

COMMENT: This alternative is not acceptable. The PEA failed to fully identify the environmental impacts of uranium mining operations on the 38 lease tracts and did not support the FONSI. As set out above and in the comments herein, the environmental impacts due not justify the continuation of the uranium leasing program.

## **2. SCOPING COMMENTS**

### **2.1. General Comments**

2.1.1. According to the DOE's information on the Current Status of the ULP,<sup>2</sup> it is now appropriate for DOE to prepare a Programmatic Environmental Impact Statement in order to analyze the reasonably foreseeable environmental impacts, including the site-specific impacts, of a range of alternatives for the management of the ULP for the remainder of the ten-year period that was covered by the July 2007 PEA.

COMMENT: If the DOE has determined that a full Programmatic Environmental Impact Statement is warranted, then the assumption that ULP would cause no significant impacts is not warranted and, therefore, the FONSI must be withdrawn.

2.1.2. PEIS Time Frame: The PEIS would only cover what is left of the 10-years covered by the 2007 PEA. At that time, the DOE would have to conduct another NEPA review to consider the status of the uranium leasing program.

COMMENT: By the time the PEIS is issued, there would probably be less than 5 years left of the 10 years for the current ULP. No uranium ore has been shipped from the lease

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<sup>2</sup> <http://www.lm.doe.gov/default.aspx?id=314>

tracks since 2005/2006, and it will take over 5 years for the proposed uranium mill in the Paradox Valley to be constructed and become operational.<sup>3</sup> Therefore, it does not appear that there will be any meaningful uranium mining operations at the lease tracts within the next 5 years, if at all. The PEIS must provide a full description of the uranium mining activities since the 2007 PEA and a realistic estimate of the uranium mining activities that will occur on the lease tracts—if the lease tracts continue to be available—up to the end of the current ULP 10-year time frame.

## **2.2. 2007 PEA**

2.2.1. The PEA contains a great deal of information and data related to the various lease tracts and the environmental impacts.

COMMENT: The PEIS must update (and correct) all data that was presented in the 2007 PEA. This would include updating the status of all lease tracts, transportation data, housing data, economic data, other pertinent data, and the inclusion of 2010 census data.

2.2.2. The 2007 PEA (page 3-10) states: *The leaseholder, in accordance with the lease agreement, would be required to protect members of the public from radiation by complying with radiation standards established by the U.S. Nuclear Regulatory Commission (NRC) and EPA. NRC's standard for total effective dose equivalent is 100 millirems per year (mrem/yr) (10 CFR 20). The EPA standard states that "emissions of radon-222 to the ambient air from an underground uranium mine shall not exceed those amounts that would cause any member of the public to receive in any year an effective dose equivalent of 10 mrem/y" (40 CFR 61.22).*

COMMENT: The NRC regulations are not applicable to uranium mining operations. If the DOE believes that the NRC standards are applicable, the PEIS must explain the legal basis for applying the 10 C.F.R. Part 20 radiation standard to the ULP mining activities and explain how that standard will be enforced.

2.2.3. The PEA's quote from the Environmental Protection Agency (EPA) radon standard (page 3-10) implies that this standard is applicable to the mining operations associated with the leasing program.

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<sup>3</sup> Recently, Energy Fuels Resources delayed payment of another installment on their surety (required prior to initiation of construction) until 2012. In addition, the Atomic Energy Act, 42 U.S.C. § 2021(o)(3)(D), currently prohibits any major construction activity at the Piñon Ridge Mill. This is because the Colorado Department of Public Health and Environment (CDPHE) has not complied with the noticing and public comment and hearing opportunity requirements in 42 U.S.C. § 2021(o)(3). After the CDPHE issued their written environmental analysis of the proposed Piñon Ridge Mill, the CDPHE did not notice and provide an opportunity for public comment and an opportunity to request an adjudicatory hearing, as required by 42 U.S.C. § 2021(o)(3)(A) and (C).

COMMENT: The EPA standard only applies to the emission of radon from mines that will produce over 100,000 tons of ore over the life of the mine (including historic ore production). Mines that will produce 100,000 tons of ore or less and open-pit operations are not subject to that standard. Also, there appears to be no standard for the emission of radon from other sources associated with the mining operations. This includes ore pads, stockpiled ore, waste rock piles, evaporation ponds, water treatment facilities, ore loading areas, contaminated soils, and surface water. There is no requirement for onsite monitoring of the emission of radioactive emissions from these sources. There is no requirement for offsite monitoring of radon and other radionuclide emissions. The PEIS must discuss how the emission of radon and other radionuclides from the leasing program mining operations will be regulated, monitored, and controlled.

2.2.4. The PEA contains a Summary of Lease Tract Information (Table 3-2, pages 3-5 to 3-6), which contains information about the lease tracts, including information on the operational status of the mines associated with the lease tracts.

COMMENT: The information in the Summary regarding the operational status of the mines associated with the lease tracts is misleading and, in some cases, completely false. It appears that the information regarding the status of the mining activity was supposed to bolster the DOE's decision to continue the leasing program for the "active" leases by giving the impression that there was active production at some of the mines and that there was some kind of "standby" status that implied that the mines had recently ceased operation and were ready to resume operation in the near term. Active production is not defined, but the assumption is that the mines were actively producing uranium ore for processing at a uranium mill.

The Mine Safety and Health Administration (MSHA) Mine Data Retrieval System<sup>4</sup> can be used to access information on the mines associated with the leasing program. The data includes mine production information and inspection information. The Summary indicates that 4 of the mines are in "active production": C-JD-6, C-JD-8, C-JD-9, and C-MS-18. MSHA considers mines C-JD-6, C-JD-8, and C-MS-18 to be non-producing mines and C-JD-9 to be abandoned as of 2007. Based on MSHA information, none of the 4 mines that the DOE claimed were in active production in 2007 were actually producing ore. Exhibit B.<sup>5</sup> Except for the first 2 quarters of 2006 for C-JD-18, the 4 mines were not even in active production in 2006. The PEA Summary indicates that C-JD-5, C-SR-13, and C-SR-15 are on "standby." There is no mention of the fact that MSHA considers those mines to be abandoned. The abandoned mines, with their last status date, are C-SR-11 (2007); C-SR-13 (1984); C-SR-15 (1981); C-SR-13 (1984); and C-SR-15 (1981). The DOE should not consider mines that have been closed down for over 25 years to be on "standby." The Summary also indicates that C-JD-7 (underground), C-SR-11, and C-LP-21 are undergoing development. However, since 2007 none of those

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<sup>4</sup> <http://www.msha.gov/drs/drshome.htm>

<sup>5</sup> Exhibit B. DOE Uranium Leasing Program Mining Activity

mines have commenced operation, and there have been few annual hours and few workers. For C-JD-7 and C-LP-21 no hours and no workers were reported; for C-SR-11, there were 18 hours and one worker in 2006, 5 hours and 1 worker in 2007, and no subsequent activity. This information is summarized in Exhibit B hereto.

Clearly, the DOE was not committed to providing full and accurate information on the status of the mines associated with the active leases in 2007. This must be corrected. The PEIS must contain information on the activities at the mines from 2000 forward, including (but not limited to) number of workers, annual hours, ore produced, ore shipped, and reclamation activities; status of bonding with the DOE and Colorado Division of Reclamation, Mining, and Safety (DRMS); results of inspections; amount of surface disturbance; reclamation plans; reclamation schedule; compliance with DRMS and other state and federal regulations and requirements; and submittal of Environmental Protection Plan. The PEIS must also discuss the practice of letting mines sit for decades in a non-operational status without requiring interim reclamation actions and without requiring full reclamation of the mine site and lease termination.

### **2.3. Current Mining Operations**

#### **COMMENT:**

2.3.1. The PEIS must fully characterize and evaluate the current mining operations and impacts at all of the lease tracts since 2000. This would include information regarding the site status, lease agreement, state and federal permits, bonding, approved site plan of operations, removal of stockpiled ore, ore production, surface expansion, and other activities associated with the 38 lease tracts.

2.3.2. The PEIS must include the names of the mine operators and names of mines associated with the lease tracts and the number of waste rock piles and amount of surface disturbance associated with the waste rock piles, ore storage, equipment, storage and treatment ponds, and other surface activities.

2.3.3. The PEIS must assess the practice ore stockpiling at the lease tracts and its impacts. This would include the amount of stockpiled ore, the radioactive and non-radioactive constituents of the stockpiled ore, the estimated length of time the ore will remain at the sites, and environmental impacts.

2.3.4. PEIS should include a history of the existing leaseholders compliance with their lease agreement and applicable statutes and regulations. It should also include DOE or BLM lease and mine inspection reports.

2.3.5. The PEIS must include an assessment of the impacts of ULP mining operations on the nearby land that is part of the mining operation, but not on ULP land. The PEIS must assess the impacts of the whole mining operations, not just the impacts to ULP land.

## **2.4. Alternatives to be Considered in PEIS**

### COMMENT:

2.4.1. The PEIS must consider an alternative that permanently withdraws any tracts in the Dolores River Canyon from the uranium lease program: Slick Rock lease tracts 13, 13A, and 14. This alternative should be considered because of the unique impacts associated with uranium mining operations in the Dolores River Canyon and the need to protect the river from additional uranium mining impacts.

2.4.2. The PEIS must consider the fact that tracts returned to the jurisdiction of the BLM would again be open to uranium exploration and development, under Department of Interior jurisdiction and regulations.

2.4.3. The PEIS must include an alternative that includes strict mitigative measures and stipulations. The public must be part of the process to determine what site-specific and programmatic mitigative measures should be implemented.

2.4.4. The PEIS should include alternatives that includes interim reclamation plans, which will include programmatic and site specific NEPA analyses to address and remedy the past impacts of uranium mining. This interim reclamation plan should include an analysis of interim reclamation needs on DOE and BLM land in Uravan Mineral Belt.

2.4.5. The PEIS must consider alternatives that protects the Dolores and San Miguel River watershed from further contamination by uranium mining under both the BLM and DOE programs.

## **2.5. NEPA Reviews**

2.5.1. The PEA (page 3-7) states: *To reopen an existing mine that has been reclaimed, leaseholders would be required to submit a mining plan to DOE outlining their proposed activities. Upon receipt of such a plan, DOE would initiate a two-tiered review process of the plan (see Figure 3-1). Under its NEPA procedures, DOE would determine (1) if the proposed activities outlined in the plan would be consistent with the activities outlined and discussed in this final PEA (no further NEPA review would be required) and (2) if additional NEPA documentation is required and, if so, define those requirements.*

COMMENT: This Leaseholder Plan Review and Approval Process as outlined in the 2007 PEA is not acceptable. The review and approval process must include a site-specific NEPA review for each proposed mining operation. It would be impossible for the PEIS to determine and evaluate all the relevant environmental impacts of a proposed mining operation on a specific lease tract or tracts and develop adequate site-specific mitigative measures. Therefore, the DOE must require additional NEPA documentation and an opportunity for the public to provide comments on specific plans of operations,

proposed mitigative measures, additional NEPA review, and other aspects of the proposed lease tract operation.

## **2.6. Lease Tract Characterization**

### **COMMENT:**

2.6.1. The PEIS should provide detailed, readable maps of routes to the mills and the status, type, and quality of those roads.

2.6.2. The PEIS must provide the most current aerial photographs of the lease tracts in order to document current and past surface impacts of the leasing program.

2.6.3. The PEIS must fully assess the radionuclide emissions from the lease tracts and mine operations and assess the impacts of those emissions to the air, soils, and water, wild and domestic animals, and human population. This would include conducting radiation surveys of the lease tracts, mines, ore piles, waste rock piles, haul roads, vents, exploration drilling sites, and any other location that has been potentially impacted by the mining operations since the early 1970s. It would also include vegetation sampling and assessment near the mines and radon vents.

2.6.4. The PEIS must assess the total amount of topsoil required for interim and final site reclamation for each area that must be reclaimed using topsoil.

2.6.5. The PEIS must assess the total amount of topsoil that will be available for interim and final site reclamation on the lease tracts.

2.6.6. The PEIS must assess any gaps in reclamation soil requirements and soil availability, assess the impacts due to an insufficient amount of topsoil, and develop mitigative measures to assure that all areas are covered with clean materials to meet reclamation and revegetation standards.

2.6.7. The PEIS must assess the lease tract soils for their water holding capacity and ability to serve as a growth medium to support the pre-mining vegetation types.

2.6.8. The PEIS must assess and describe road access, exploration drilling, and vent hole installation activities to determine whether the topsoil was actually saved for future reclamation.

2.6.9. The PEIS must identify, review, consider, and references all state geological studies of the Uravan Mineral Belt and surrounding areas and all US Geological Survey studies of the Uravan Mineral Belt and surrounding areas.

## 2.7. Environmental Impacts

2.7.1. Socioeconomics: The 2007 PEA stated that the increase in jobs could increase housing construction in Cañon City, Blanding, and White Mesa near the ore-processing facilities.

COMMENT: The PEA did not provide the basis for the expected expansion of the work force at the White Mesa Mill under the Expanded Program. If the DOE expects an expansion of the work force at the White Mesa Mill as a result of the Expanded Program, the PEIS should provide the basis—a realistic basis—for that assumption.

2.7.2. Existing Program Alternative: The 2007 PEA states (page 5-1): *Under the Existing Program alternative, the leaseholders would conduct preoperational, operational, and postoperational activities at a levels similar those occurring in 2005. Assuming all 13 leases were brought into production, up to 186 direct jobs could be created.*

COMMENT: The PEIS should provide meaningful data on the preoperational, operational, and post operational activities that occurred since 2000, including the number of employees at the lease tracts and the amount of ore production. It appears that, based on mining activities since 2000, the 2007 PEA inflated the expected number of workers beyond what can be reasonably expected over the next 5 years.

2.7.3. Impacts to Waterways: The leasing program includes mines in the Dolores River Canyon.

COMMENT: The PEIS must include a detailed evaluation of the potential impacts of uranium operations in the vicinity of the Dolores River.

2.7.4. Noise: Some of the the air intake and radon-exhaust vents (some vents serve both purposes) contain fans which operate on the surface. The fans are scattered at some distance from the primary mine entrances. These fans create a great deal of noise, which can be heard over a long distance.<sup>6</sup>

COMMENT: The PEIS must assess the impacts of the extreme noise from the intake/exhaust vent fans. This would include an assessment of the affects of the noise on insects, birds, mammals, animal hunting habits, animal mating and reproduction, recreation, grazing, and human habitation and activities.

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<sup>6</sup> Sound of vent in operation at Vent 1050, Beaver Shaft Mine, La Sal, Utah.  
<http://www.uraniumwatch.org/lasalmines.audio/VentNoiseRecording.100612.MOV>

2.7.5. Food Chain: Radionuclides are taken up by plants and animals and passed up the food chain. This chain includes both domestic and native animals that are consumed by humans.

COMMENT: The agencies must fully evaluate the cumulative impacts of the mining operations on the wildlife in the area, with particular attention to the impacts on the food chain from the releases of chemicals and radioactive particles into the air, water, and soils in the lease tract areas.

2.7.6. Land Use: The 2007 PEA states (page 5-21) that storm-water management controls would minimize the potential for erosion and transportation of contaminant-laden sediments, and, therefore potential impacts from storm-water runoff would be negligible.

COMMENT: The PEA did not state how long the storm-water management controls would be in place and how they would be maintained over the hundreds and thousands of years that the waste rock piles would remain in place. Eventually, without active maintenance, the waste rocks piles will erode, contaminant-laden sediments will be transported into surface drainages, and radioactive and non-radioactive pollutants will be mobilized. The long-term impacts of the waste rock piles on the environment, including cumulative impacts in the leasing program areas, must be included in the PEIS.

2.7.7. Recreation: The 2007 PEA minimized the potential for recreational impacts from the leasing program and did not include cumulative impacts in the region from uranium mining.

COMMENT: The PEIS must evaluate impacts of the removal of trees and vegetation from the lease tracts, noise levels, exposure to radioactive and non-radioactive hazardous materials, lack of proper fencing and signing in recreational areas, uptake of radionuclides in wild foods (animal and vegetable) that may be consumed by the public, and impacts of mining activities on wildlife that is enjoyed by recreational visitors.

2.7.8. Agriculture and Grazing

COMMENT: The PEIS must characterize and evaluate the uptake of radionuclides through the grazing-animal food chain in the lease track areas, including cumulative impacts.

2.7.9. Climate Change

COMMENT: The DOE must evaluate the impacts of the ULP that are associated with climate change over the life of this proposal. This would include impacts to surface and underground water resources, impacts from emissions that contribute to global climate change, and impacts to sensitive regional ecosystems.

2.7.10. The PEIS must assess, based on actual measurements, the cumulative destruction of trees and bushes in the lease tracks and assess the ability for trees and bushes to become reestablished. This would include an assessment of the reestablishment of vegetative cover in areas that are quite rocky, where the primary vegetative cover consists of trees.

2.7.11. The PEIS must assess, based on actual measurements, the time it will take to reestablish the vegetative cover that was in place at the drilling and access sites prior to exploration drilling and vent hole installation activities.

2.7.12. Storm Events: The PEIS must assess the potential for and impacts of storm events, including storms larger than a 100-year, 24-hour event.

2.7.13. The PEIS must consider impacts to lands with unique characteristics in the surrounding geographic, including historic or cultural resources, wetlands, wild and scenic rivers, and ecologically critical areas.

2.7.14. The PEIS must consider impacts from a Standard Project Flood in addition to the 100 year flood.

2.7.15. The PEIS must fully assess the cumulative impacts of the uranium leasing program on endangered and threatened species and the ecosystems that support these species.

2.7.16. Ecological Impacts: The PEIS must fully consider the data and information contained in the *Scoping Comments on the Ecological Effects of Uranium Mining Mesa, Montrose, and San Miguel Counties, Colorado, USA*, submitted by Joseph C. Leyda, Leyda Consulting, Inc., Professional Wetland Science, Vancouver, Washington. Exhibit A hereto.

## **2.8. Air Quality**

### **COMMENT:**

2.8.1. Air Quality: Radon and radioactive particulates are emitted from mine openings and radon vents

COMMENT: The PEIS must assess the impacts from the release of radon gas and radioactive particulates from mine openings and radon vents. Such an assessment was not included in the 2007 PEA. The agencies must fully determine the nature and impacts of those radionuclide emissions on air, soils, and water, vegetation, wild and domestic animals, and human population. The assessment would also include vegetation sampling and assessment in the vicinity of the mine openings and radon vents.

2.8.2. Air Quality: Radon, uranium, and other radionuclides are emitted from ore storage piles, waste rock piles, evaporation ponds, drilling sites, loading operations, and other mining equipment and activities.

COMMENT: The DOE must fully determine the radionuclide emissions from the lease program mine operations and assess the impacts of those emissions to the air, soils, ground and surface water, vegetation wild and domestic animals, and human population. This would include conducting radiation surveys of the mines, ore piles, waste rock piles, haul roads, vents, exploration drilling sites, and any other location that has been potentially impacted by the mining operations since the early 1970s.

2.8.3. Regional Air Quality

COMMENT: Due to the likelihood of regional transport of air emissions from the ULP mining areas and other uranium mining operations in the La Sal and Lisbon Valley, Utah, the DOE must conduct a regional air-transport analysis to determine the long-range (as well as short-range) potential for, and impacts from, radioactive and non-radioactive emissions and particulate transport.

## **2.9. Water Quality**

COMMENT:

2.9.1. The PEIS must fully characterize the surface and below ground hydrological environment in the vicinity of the lease tracks and in the larger geographic area.

2.9.2. The PEIS must evaluate the potential for the contamination of ground and surface water resources from the ULP lease sites, including impacts from exploration drilling, vent hole installation and operation, soil erosion, waste rock dumps, ore storage areas, equipment storage and operation, contaminated soils, wind-blown contaminants, water-treatment ponds and facilities, worker transportation, and loading and hauling of ore.

2.9.3. The DOE should require monitoring wells around the perimeter of the mine complex to determine the hydraulic gradient of the regional and perched groundwater.

2.9.4. The PEIS must analyze impacts to downstream water supplies and water users.

2.9.5. The PEIS must include an analysis of applicable Clean Water Act requirements and historic compliance with CWA requirements at the lease tracts.

2.9.6. The PEIS should include a list of all water rights associated with the lease tracts, including water right number, water right owner, amount of appropriation, approved uses, and location of point of diversion and water right use.

## **2.10. Effects on Human Health**

### COMMENT:

2.10.1. The PEIS must evaluate the effects on human health from the exposure to 1) uranium associated with the operation of lease tract surface and underground mines, 2) arsenic and other non-radioactive hazardous pollutants; 3) radon emissions from the mine sites and radon vents; other 4) radioactive particulates that are emitted from the mine sites and from the radon vents.

2.10.2. The PEIS must acknowledge that there is no federal hazardous air pollutant standard for the emission of radon from surface uranium mining operations and for underground mines that mine 100,000 tons of ore or less over the lifetime of the operation. There is only an EPA standard for the emission of radon from the vents and mine entrances from underground mines that have or intend to mine over 100,000 tons of ore over the life of the mine (including historic ore removal).

2.10.3. The PEIS must acknowledge that there is no requirement for offsite monitoring to determine the amount of radon and radioactive particulates that are dispersed offsite.

2.10.4. The PEIS will evaluate the impacts of mine operations on local emergency responders. Although mines are required by the Mine Safety and Health Administration to have responders that have been trained to respond to and be available to respond to uranium mine emergencies, the fact is that mine operators often rely on local emergency responders who have not been specifically trained for mine rescue operations. Also, there appears to be no specific requirements and guidance to the mine operator when using local responders; such as requiring protective equipment and guidance into the underground mine.

2.10.5. The PEIS must evaluate the potential hazard to the public of having waste rocks piles and radon vents readily accessible to the public, with no fencing or warning signs.

2.10.6. The PEIS must assess the actual amount of radon that is being received at relevant offsite locations (receptor points). This would include conducting offsite radon monitoring and measuring indoor radon. The DOE should include the offer of free indoor radon testing at any home the vicinity of the mining operations.

2.10.7. The PEIS must evaluate the impacts and risks to the community due to the toxicity of uranium.

2.10.8. The PEIS must analyze of the risks associated with the presence of arsenic and other non-radioactive hazardous materials in the ore and waste rock piles.

2.10.9. The PEIS must assess the potential for human and animal intrusion of the dumps and removal of waste rock, assess the potential impacts of such intrusion or removal, and

determine how to assure that the waste rock piles will remain intact during the post-reclamation period, which will continue into eternity.

2.10.10. The PEIS must assess the hazards associated with the accessibility of the waste rock piles and other aspects of the mining operations prior to reclamation and during periods when the mines are not operational.

2.10.11. The PEIS must 1) identify the closest residents and locations of community activity that will be exposed to radon from existing and expected radon vents associated with the ULP mines and 2) assess the impacts of that radon exposure.

2.10.12. The PEIS must assess the potential for workers to be exposed to and harmed by radionuclides that are present in or may be taken up by underground mine water that is subsequently used for dust suppression, drilling, and other mining activities.

2.10.13. The PEIS must analyze the occupational risks associated with uranium mining. This would include an analysis of the current availability of experienced miners in the Uravan Mineral Belt area. An analysis of accidents at currently operating uranium mines not far from the lease tracts shows that mine accidents are often associated with workers that have minimal mining and/or uranium mining experience. This includes a fatal accident, where the miner had very little experience.<sup>7</sup>

## **2.11. Economic Effects**

### **COMMENT:**

2.11.1. The PEIS must take a hard look at the effects of the boom-and-bust uranium industry economy. The PEIS must provide data on the number of miners and support personnel who have been employed at the leased tract mines since 2000 and provide a more realistic estimate of the number of miners who would be expected to be employed in the near future, under the current expanded leasing program.

2.11.2. The PEIS must provide more detailed information regarding the number of workers that have been employed at the Cañon City and White Mesa Uranium Mills over the past ten years and the amount of ore that has been processed at those mills, sources of ore during that period, and the amount of ore from the leasing program that has been processed at the Cañon City and White Mesa Mills. The PEIS must provide updated information regarding the status of the Cañon City Mill, including a realistic picture of the serious environmental problems at the mill and the likelihood of it every processing ore in the future.

2.11.3. The PEIS must fully analyze the economic benefits of fully reclaiming and

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<sup>7</sup> <http://www.msha.gov/FATALS/2010/FAB10m08.asp>

rehabilitating all federal and state lands in the Uranvan Mineral Belt and nearby areas of San Juan County, Utah, that have been impacted by uranium mining operations. This would include cleanup to established reclamation standards, removal of structures and debris, erosion protection, placing waste rock underground, and revegetation. The economic benefit of reclamation and rehabilitation must be compared to the economic benefit of maintaining the existing uranium leases over the next 5 years, where there is little possibility of any ore being actually produced and shipped to a mill for processing.

2.11.4. The PEIS must analyze the costs to local and state governments to develop and maintain roads and develop and operate other infrastructure (such as schools and medical facilities) to support any future increase in uranium mining and milling activities.

2.11.5. The PEIS must analyze the costs to the taxpayers for short-term and long-term monitoring and maintenance of lease tract operations. This would include monitoring and long-term maintenance of the waste rock dumps in perpetuity.

2.11.6. The PEIS must evaluate the potential for economic impacts due to failures in regulatory oversight of the uranium mining and milling operations.

## **2.12. Processing of Ore**

### COMMENT:

2.12.1. The 2007 PEA assumed that the ore from the lease tracts would be processed at existing mills. The PEA assumed that the ore would be processed at the Cotter Corporation Mill in Cañon City, Colorado, or the International Uranium Corporation (now Denison Mines (USA) Corporation) White Mesa Mill near Blanding, Utah. The PEA also mentioned the possibility of the reopening of the Shootaring Canyon Mill in Utah. The PEIS should evaluate the likelihood of ore being processed at those uranium mills from the DOE lease tracts in the foreseeable future. For example, 1) it is unlikely that ore will ever be processed again at the Cañon City Mill; 2) currently the White Mesa Mill is only processing ore that comes from mines owned by Denison or that Denison is in the process of purchasing; 3) Denison owns a number of permitted mines in Colorado, Utah, and Arizona; 4) Denison has submitted Environmental Protection Plans for 6 permitted/non-producing mines in Colorado, none of which are part of the leasing program;<sup>8</sup> and 5) the owner of the Shootaring Canyon Mill has not proceeded with plans to reopen the mill.<sup>9</sup>

2.12.2. The PEIS must now consider the possibility that most, if not all, of the ore from the lease tracts would be processed at the proposed Piñon Ridge Uranium Mill in the Paradox Valley, Colorado, if the mill is constructed and becomes operational.

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<sup>8</sup> <http://mining.state.co.us/UraniumMininginColorado.pdf>

<sup>9</sup> [http://www.radiationcontrol.utah.gov/Uranium\\_Mills/plateau/prl.htm](http://www.radiationcontrol.utah.gov/Uranium_Mills/plateau/prl.htm)

2.12.3. The PEIS must thoroughly evaluate the indirect impacts of from the processing of the ore from the lease tracts at the uranium mills under consideration. This would include short-term and long-term impacts to air quality, ground and surface water, land use, community and worker health, local transportation, recreation, wildlife, endangered and threatened species, water use, cultural resources, and long-term care of tailings in perpetuity.

2.12.4. The PIES must estimate the number of mine operations and amount of ore that would be required to satisfy the maximum and minimum ore-processing and yellowcake production needs of the proposed Piñon Ridge Mill.

### **2.13. Transportation**

#### COMMENT:

2.13.1. The 2007 PEA considered the transportation of ore to either the Cañon City Mill or the White Mesa Mill. The PEIS should also evaluate the impacts of transportation to the proposed Piñon Ridge Mill. If the mill in the Paradox Valley is constructed and becomes operational, it is possible that it would be the only mill to receive ore from the lease tracts. Therefore, the PEIS must consider the possibility that all ore would be transported to the Piñon Ridge Mill, with the concentration of transportation impacts in the narrow Paradox Valley.

2.13.2. The PEIS must also consider the cumulative impacts of ore being transported to the Piñon Ridge Mill from mines and locations that are currently completely or partially owned or controlled by Energy Fuels Resources. In Colorado this would include the Whirlwind Mine, Crosswind, Farmer Girl, Far West, Trobyn Property, Wilhunt Property, HC Claim Group, Henry Claim Group, May Pie Group, and DOE ULP tracts 19A, 20, 26, and 27. In Utah this would include the Energy Queen Mine and nearby properties, RM/Judas/Rattlesnake, Cedar Mt. Group, San Rafael Project, Arths Pasture, Yellow Cat-Ethan Group, DAR and Rad Claims, Caliham, and various Utah State leases.<sup>10</sup> It would also include any Energy Fuels' claims and projects in Arizona.

2.13.3. The PEIS must assess the cumulative impacts of the transportation of ore from other mines that supply ore or could be expected to supply ore to the uranium mills under consideration.

2.13.4. The PEIS must analyze the potential impacts of ore haul routes next to rivers and streams.

2.13.5. The PEIS must fully assess the potential for mine access roads to be impacted by

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<sup>10</sup> <http://www.energyfuels.com/>

floods, rock and debris slides, washouts, erosion, and similar hazards. The assessment must include impacts to roadways, bridges, culverts, berms, and other structures associated with ore truck transportation routes and uranium mine operation access roads.

2.13.6. The PEIS must assess the cumulative impacts of road and access route construction, including long-term impacts to vegetation and wildlife.

## **2.14. Exploration Drilling**

### **COMMENT:**

2.14.1. The 2007 PEA (Table 3-2 Summary of Lease Tract Information, pages 3-5 to 3-6) indicates that exploration drilling occurred at all the inactive lease tracts. The accessibility of information regarding the location and results of past exploration drilling would be an important factor in determining the extent of additional exploration drilling activities. If those tracts are leased in the future, it is not know if the results of historic exploration drilling would be made available to a new lessee. If a new lessee does not have access to data and information from past exploration drilling, the lessee may have to duplicate past exploration drilling projects. This would cause unnecessary additional impacts. Therefore, the PEIS must discuss how new lessees would be able to access past drilling data and minimize new exploration drilling activities.

2.14.2. The PEIS should fully discuss the fact that there are two types of exploration drilling: 1) drilling to locate an ore body that can be mined and 2) location of additional areas of ore for the purpose of extending an existing operation. As lenses of ore are mined out, the mine operator must engage in a continual process of exploration drilling to determine the direction of the operation underground. In these cases, exploration drilling (and vent hole installation) is an integral part of an existing mining operation, and each exploration drilling plan must be subject to a modified plan of operations and NEPA review, not just a notice of intent.

## **2.15 Cumulative Impacts**

2.15.1. The PEIS should include an evaluation of the current and future impacts of the historic Atomic Energy Commission/DOE uranium tracts that have been reclaimed and relinquished to the DOE. This would include an evaluation of all surface impacts and potential of the sites to release radionuclides and non-radioactive deleterious materials into the environment in the long-term.

2.15.2. The PEIS must map and assess the cumulative surface impacts from the construction of access routes used for past drilling operations, vent holes, mines, utilities, and other aspects of mine operations.

2.15.3. The PEIS must assess the cumulative ability of the impacted areas to return to the

vegetation types and vegetation cover that was present prior to mining operations.

2.15.4. The PEIS must assess the cumulative potential for the ULP to cause unnecessary or undue degradation of the public lands and resources.

2.15.5. The PEIS must assess the cumulative impacts from the long-term presence of the mine waste rock, ore pads, contaminated soils, and other contaminated materials from the mining operations on the soils, water, air, flora and fauna, and human community.

2.15.6. The 2007 PEA discusses the amount of money that was generated by the leasing program. However, there was no discussion of the costs to the taxpayers of the clean up and reclamation of properties in the leasing program and the cost to the taxpayers of reclamation and long-term care (under Title I of the Uranium Mill Tailings Radiation Control Act of 1978) of the uranium mills that received and processed ore from the ULP since its inception. The PEA did not include data regarding the amount of money that has been paid out to the miners, millers, and ore transported who worked at ULP mines and associated milling facilities under the Radiation Exposure Compensation Act (RECA) and Energy Employees Occupational Illness Compensation Program Act (EEOICPA). Therefore, the PEIS must include an assessment of the amount of government funds expended on 1) reclamation of the sites in the AEC and DOE leasing program, 2) the reclamation and long-term care of the uranium mill that received and processed ore from the leasing program mines, 3) the reclamation of ore-buying stations that received ore from the lease sites, 4) the RECA and EEOICP programs, and 5) on administration and oversight of those federal programs and actions.

2.15.7. The PEIS must assess the cumulative impacts of the mining operation with respect to Environmental Justice in the community impacted by the operation of the White Mesa Mill. There has never been an assessment of the impacts of uranium mining and milling operations in San Juan County, Utah, on the low income and tribal communities. These low-income and tribal communities bear the brunt of impacts from uranium industry operations in San Juan County.

2.15.8. The PEIS must assess the cumulative impacts to cultural resources on White Mesa (a site that has been determined to be eligible for the National Register) from the disposition and long-term storage of tailings from the processing of ore from mines on federal lands in Colorado, Utah, and Arizona.

2.15.9. The PEIS must assess the cumulative impacts from the long-term presence of the mine waste rock, ore pads, contaminated soils, and other contaminated materials from the mining operations on the soils, water, air, flora, fauna, ecosystems, and human community.

2.15.10. The PEIS must assess the full cumulative impact of uranium mining and associated milling activities in the Uravan Mineral Belt, including activities on DOE, BLM, US Forest Service, private, state lands—from the start of uranium mining activity

associated with the Manhattan Engineer District in the 1940s. The social and environmental impacts of those federal government and uranium industry activities are still present today.

2.15.11. Clearly it is time for the DOE, BLM, U.S. Forest Service, and other government entities to develop a full environmental analysis of the extensive impacts of the uranium mining and milling industry in the four corners region, including historic, current, and foreseeable impacts.

## **2.16. Mitigative Measures**

### COMMENT:

2.16.1. Security of Potential Safety Hazard Areas: Mine operators should be required to post radioactive warning signs and fence surface vent holes, which may be a distance from the main mine operation site. This is necessary because the vent holes release radon, a federally-regulated hazardous air pollutant.

2.16.2. Mine operators should not be allowed to vent radon in near areas where there are workers. Mine vents should not be located next to portals, waste rock piles, ore storage areas, or other areas where mine workers usually conduct their activities.

2.16.3. The DOE should require onsite and offsite monitoring of uranium, radon, and other radionuclides from active mining operations.

2.16.4. The DOE will require that a lessee contract with a botany consulting company to determine pre-mining vegetation conditions for all areas that have been or will be impacted by the mining operations. That data will be used by the DOE and the lessee to establish the post-reclamation revegetation goal of at least 70% reestablishment of the pre-mining vegetative regime.

## **2.17. Interim Shutdown Activities**

The 2007 PEA states (page 3-29): *Temporary shutdown of mine operations or an interim period of curtailed operations might be necessary as a result of unforeseen circumstances, such as a decrease in market demand for processed uranium or vanadium. However, maintenance to prevent deterioration of facilities would still be required. In this case, DOE, state permitting agencies, and local and county officials would be notified, as appropriate, to determine actions necessary to temporarily secure plant facilities and equipment.*

### COMMENT:

There is a long history of degradation of the mine site and the environment at uranium mines that have temporarily ceased operation. Sometimes the temporary cessation of

operation lasts for decades with little or no federal or state agency oversight. Material erodes, radioactive material is removed, ground and surface water becomes contaminated, trash accumulates, and hazardous conditions remain at the site. Therefore, the mine operator should have an interim management plan in place for temporary shutdown. The interim management plan should be part of the plan of operations and be subject to agency and public review. The BLM requires such interim management plans,<sup>11</sup> and the DOE should also. There should be interim plans for various levels of temporary shutdown. The DOE should be required to review the temporary shutdown status of the mine at least every 3 years to determine if the mine operation should be fully reclaimed. There should be no indefinite, open-ended temporary shutdowns.

## **2.18. Reclamation**

2.18.1. Currently there are no specific state or federal reclamation standards for the clean up of contamination at uranium mines. The DOE must adopt a reclamation standard of a return to background or 5 pCi/m<sup>2</sup>, whichever is less, for all areas of the mine sites, including waste rock dumps, ore pads, evaporation ponds, loading areas, equipment storage areas, radon vent locations, and other areas impacted by mining operations.

2.18.2. The PEIS must contain information on the requirements for the reestablishment of native vegetative regimes in the areas that have been or will be impacted by mine development, road building, exploration drilling, vent installation, utility access, and other mine development and operation activities.

## **2.19. Data and Information**

COMMENT:

2.19.1. The PEIS must include information regarding the BLM Field Office that has jurisdiction over each of the lease tracts, including contact information.

2.19.2. The PEIS must provide data on the amount of ore produced at the active tracks since 2000.

2.19.3. The map of the uranium lease tract locations that is currently available on the DOE website<sup>12</sup> should have the same lease tract identification numbers and letters as those listed in the 2007 PEA and the upcoming PEIS. The map and the 2007 PEA use different identifiers for some of the tracts; for example, the map shows tracts 17(1) and 17(2), where the PEA indicates 17 and 17A; the map shows tracts 23(1), 23(2), and 23(3), where the PEA indicates 23, 23(A), and 23(B); and the map does not show tracts 26A and 27A.

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<sup>11</sup> 43 C.F.R. § 3809.401(b)(5).

<sup>12</sup> <http://www.lm.doe.gov/default.aspx?id=119>

2.19.4. The DOE should immediately provide a list of the state, local, tribal, and federal agencies and other entities that are serving as cooperating agencies for the development of the PEIS.

2.19.5. The PEIS must include a complete list of references and provide citations for data, information, and conclusions. The PEIS must not just rely on a list of references at the end of document. The DOE must make any references that are not currently available online available on the DOE PEIS website.

2.19.6. The PEIS must include pertinent data and information on the lease tracts that is available from MSHA and the Colorado DRMS.

### **3. DOE Regulatory Program**

#### **COMMENT:**

3.1. The DOE must establish detailed policy guidance for their oversight of all aspects of the ULP. The public would have an opportunity to comment on the draft policy guidance.

3.2. The DOE should establish a website where it provides timely information and documents related to the active lease tracts. The documents that should be posted would include: lease agreement, plan of operations, inspection reports, other state and federal agency permit information, mine plan modification requests, site-specific NEPA review records, agency/lessee correspondence, and other environmental, health, and regulatory compliance information.

3.3. Within one year of PEIS approval, a program will be developed, with local public input, to assess the current health of the citizens who are living, and have lived, in the vicinity of the ULP lease tracts.

3.4. The DOE must conduct radiation surveys on at least an annual basis of all lease tracts to determine whether there has been deterioration of previously reclaimed areas, the radiation levels on active lease tracts, the radiation levels at active mining operations, and amount of radiation that may be migrating offsite.

3.5. The DOE must establish generic reclamation standards for its ULP tracts.

3.6. The DOE must require the development of emergency response plan for fires and other emergencies that have the potential to adversely impact the mine operation or result in the community being adversely being impacted by the mine operation. This will include plans to shut down radon exhaust vents to protect emergency workers. This will include a plan to limit the presence of pregnant emergency responders at the mine facilities.

3.7. The DOE must require will require continual long-term monitoring and maintenance of the waste rock piles and mine sites after site closure.

3.8. The DOE must require the reclamation of any waste rock piles that will no longer receive waste rock from the mining operations in a timely manner, rather than waiting for final site remediation.

3.9. The DOE must require mine operators to provide the DOE with copies of correspondence with the EPA with respect to their compliance with 40 C.F.R. Part 61, Subpart B, National Emission Standards for Radon Emissions From Underground Uranium Mines. This would include applications, approvals, annual compliance reports, notices of violation, and any other pertinent correspondence.

3.10. The DOE must require mine operators to provide the DOE with copies of any citations and orders issued by MSHA. Such documents will be submitted in within 30 days of the receipt or submittal of those documents.

3.11. The DOE must require lessees develop and implement a DOE approved plan to sample soils and groundwater in the vicinity of the waste rock piles and ore pads to determine the presence of leachates from the waste rock and ore storage areas. Results of those surveys will be submitted to the DOE and be made available on the DOE website. The DOE will require a mitigation response plan if leachates from the rock dumps and ore storage areas are present.

3.12. The DOE must require mine owners to rely on site-specific meteorological data in order to determine radon exposure to the nearest resident.

3.13. The DOE must state the water and soil and waste rock clean up standards that be used for reclamation of the mine sites. If cleanup standards have not been established, then the DOE must consider standards that 1) are as low as reasonably achievable, 2) at or as close to background, and 3) meet or exceed the standards for clean up of soils at uranium mill sites.

3.14. The DOE must develop an inspection and enforcement program, with public input, to assure that all regulations, lease agreements, permit stipulations, monitoring plans, interim mine plans, mitigative actions, and other requirements are complied with. This is necessary even if the DOE chooses Alternative 1.

3.15. The DOE must have clear regulations regarding the temporary or extended suspension of mine operations. The DOE should review the status of the mine annually and consider full reclamation of a mine that has not operated for an extended period of time. At the minimum, the DOE should require full reclamation of a mining operation if there has been no mining activity after 3 years, unless every 3-years the lessee submits a substantive justification for keeping the mining operation on standby; require interim

reclamation actions, depending on the length of the suspension of mining activities; and, in no instance allow a mine to remain on "standby" longer than 12 years.