

September 19, 2005

G. Paul Bollwerk  
Administrative Judge  
Atomic Safety and Licensing Board Panel  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Paul Abramson  
Administrative Judge  
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Administrative Judge  
Atomic Safety and Licensing Board Panel  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

In the Matter of  
LOUISIANA ENERGY SERVICES, L.P.  
(National Enrichment Facility)  
Docket No. 70-3103-ML

Dear Administrative Judges:

Pursuant to the Licensing Board Memorandum and Order dated August 12, 2005 (Order), the Staff hereby attaches the Final Environmental Impact Statement (FEIS) portion of its Executive Summaries of Key Areas of Review and Staff Findings. The FEIS Executive Summary was inadvertently omitted from the Staff's filing on Friday, September 16, 2005.

Sincerely,

*/RA/*

Margaret J. Bupp  
Counsel for NRC Staff

Attachment: As stated

cc w/att: James Curtiss, Esq.  
David Repka, Esq.  
Martin O'Neill, Esq.  
Amy Roma, Esq.  
Office of the Secretary  
Office of Commission Appellate Adjudication

cc w/o att: Lindsay Lovejoy, Esq.

## EXECUTIVE SUMMARY

### BACKGROUND

An application for a license to construct and operate a gas centrifuge uranium enrichment facility near Eunice in Lea County, New Mexico was filed with the NRC by Louisiana Energy Services, Limited Partnership (LES), by letter dated December 12, 2003. The NRC determined that the NRC's implementing regulations in 10 CFR Part 51 for the *National Environmental Policy Act* (NEPA) require the preparation of an Environmental Impact Statement (EIS) for the proposed facility, to be called the National Enrichment Facility (NEF).

The enriched uranium produced at the proposed NEF would be used to manufacture nuclear fuel for commercial nuclear power reactors. Enrichment is the process of increasing the concentration of the naturally occurring and fissionable uranium-235 ( $^{235}\text{U}$ ) isotope. Uranium ore usually contains approximately 0.72 weight percent  $^{235}\text{U}$ . To be useful in nuclear power plants as fuel for electricity generation, the uranium must be enriched up to 5 weight percent.

### THE PROPOSED ACTION

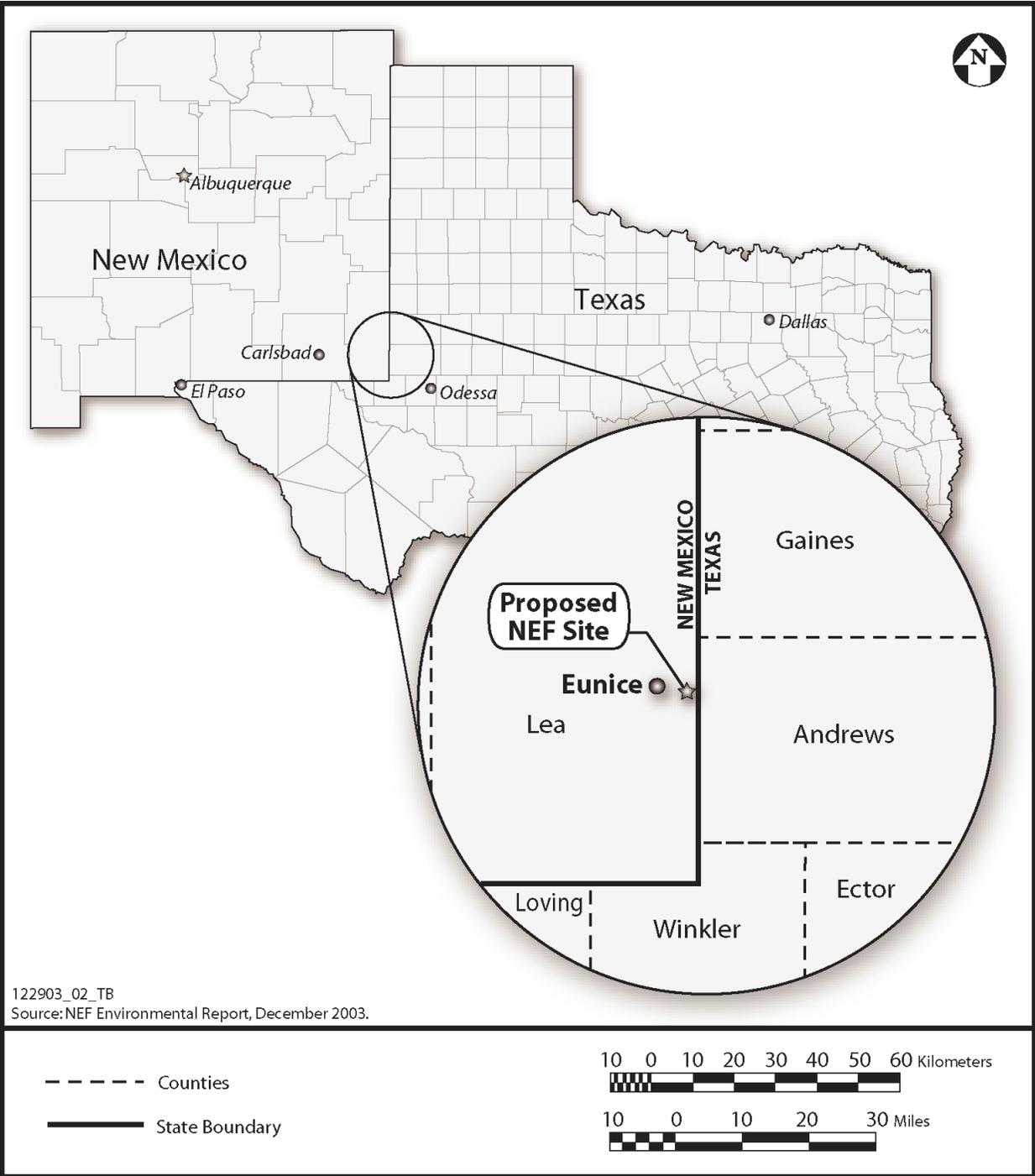
The proposed action considered in this EIS is for LES to construct, operate, and decommission a uranium enrichment facility, the proposed NEF, at a site near Eunice in Lea County, New Mexico. By letter dated December 12, 2003, LES filed an application with the NRC for a license to possess and use special nuclear material, source material, and byproduct material at the site. The proposed NEF, if approved, would be situated on Section 32 approximately 32 kilometers (20 miles) south of Hobbs, New Mexico, 8 kilometers (5 miles) east of Eunice, New Mexico, and about 0.8 kilometer (0.5 mile) from the New Mexico/Texas State line on New Mexico Highway 234. The proposed NEF would be constructed on land owned by Lea County and leased to LES (as of December 8, 2004) for 30 years, after which LES would purchase the land from Lea County.

The proposed NEF would produce  $^{235}\text{U}$  enriched up to 5 weight percent by a gas centrifuge process with a nominal production of 3 million separative work units per year. If the license is approved, facility construction would begin in 2006 and continue for 8 years through 2013. The proposed NEF would begin initial production in 2008. The facility peak production would be reached in 2013. Operations would continue at peak production until approximately 9 years before the license expired. Decommissioning activities would then begin and be completed by 2036.

The proposed action is discussed in more detail in Chapter 2 of the EIS.

### PURPOSE OF AND NEED FOR THE PROPOSED ACTION

The proposed NEF would provide an additional, reliable, and economical domestic source of enrichment services. This facility would contribute to the attainment of national energy security policy objectives by providing an additional source of low-enriched uranium to be used in commercial nuclear power plants. Nuclear power currently supplies approximately 20 percent of the Nation's electricity. The United States Enrichment Corporation (USEC) is the sole U.S. supplier of low-enriched uranium for nuclear fuel in the United States. USEC has one operating enrichment plant near Paducah, Kentucky, which can supply approximately 14 percent of the current U.S. demand for low-enriched uranium. USEC also imports



**Figure 1 Location of the Proposed National Enrichment Facility**

downblended (diluted) weapons-grade uranium from Russia to supply an additional 42 percent of the U.S. demand. The remaining 44 percent is imported from foreign suppliers. The dependence on a single U.S. supplier and foreign sources for low-enriched uranium imposes reliability risks for the nuclear fuel supply to U.S. nuclear power plants. The Administration's energy policy, which was issued in May 2001, recognized the importance of having a reliable source of enriched uranium for national energy security. The production of enriched uranium at the proposed NEF would be equivalent to about 25 percent of the current and projected demand for enrichment services within the U.S.

The purpose of and need for the proposed action is discussed in more detail in section 1.3 of the EIS.

## ALTERNATIVES

The staff addressed alternatives to the proposed action in section 2.2 of the EIS including the no-action alternative. Under the no-action alternative, the proposed NEF would not be constructed, operated, and decommissioned in Lea County, New Mexico. The proposed NEF site uses and characteristics would remain unchanged from current conditions. Enrichment services would continue to be performed by existing domestic and foreign uranium enrichment suppliers.

Before submitting the license application in December 2003, LES considered 44 alternative sites throughout the United States. LES evaluated these sites based on various technical, safety, economic, and environmental criteria. LES concluded that the site considered in the proposed action met all of the criteria. The NRC staff reviewed the site selection process and determined that none of the other candidate sites were obviously superior to LES's preferred site in Lea County, New Mexico. Therefore, no other site was further analyzed.

The NRC staff examined two reasonable alternatives to satisfy domestic enrichment needs: (1) reactivate the Portsmouth Gaseous Diffusion Facility near Piketon, Ohio, and (2) purchase low-enriched uranium from foreign sources. These alternatives were eliminated from further consideration based on costs, excessive energy consumption, and national energy security.

The NRC staff also evaluated several alternative technologies to the gas centrifuge process: the electromagnetic isotope separation process, liquid thermal diffusion, Atomic Vapor Laser Isotope Separation, and the Separation of Isotopes by Laser Excitation. These technologies, however, are not economically viable or remain at the research developmental scale and therefore were not further considered.

### ***Determining the Significance of Potential Environmental Impacts***

*A standard of significance has been established for assessing environmental impacts. Based on the Council on Environmental Quality's regulations, each impact is to be assigned one of the following three significance levels:*

- ***Small:*** *The environmental effects are not detectable or are so minor that they would neither destabilize nor noticeably alter any important attribute of the resource.*
- ***Moderate:*** *The environmental effects are sufficient to noticeably alter but not destabilize important attributes of the resource.*
- ***Large:*** *The environmental effects are*

## POTENTIAL ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION

The EIS evaluates the potential environmental impacts of the proposed action. As discussed in Chapter 4 of the EIS, the environmental impacts from the proposed action are generally SMALL to MODERATE and could be mitigated by the methods described in Chapter 5. Environmental monitoring methods are described in Chapter 6.

### Land Use

Small Impact. Construction activities would occur on about 81 hectares (200 acres) of a 220-hectare (543-acre) site that would be fenced. The land is currently undisturbed except for a gravel access road, cattle grazing, and the presence of a carbon dioxide pipeline. There is sufficient land around the proposed site for relocation of the pipeline and cattle grazing. The installation of the necessary municipal water supply piping, natural gas supply piping, and electrical transmission lines would result in only short-term impacts (due to construction), since they would be installed along existing county right-of-way easements.

### Historical and Cultural Resources

Small Impact. There are seven archaeological sites on the proposed site. These sites are considered eligible for listing on the National Register of Historic Places. Two sites would be impacted by construction activities and a third is along the access road. Based on the terms and conditions of a Memorandum of Agreement, a historic properties treatment plan would be fully implemented before construction of the proposed facility. A written plan for inadvertent discoveries has been developed.

### Visual and Scenic Resources

Small Impact. Impacts from construction activities would be limited to fugitive dust emissions that can be controlled using dust suppression techniques. The cooling towers could contribute to the creation of fog 0.5 percent of the total hours per year (44 hours per year). The proposed NEF site received the lowest scenic-quality rating using the U.S. Bureau of Land Management visual resource inventory process.

### Air Quality

Small Impact. Air concentrations of the criteria pollutants predicted for vehicle emissions and emissions of particulate matter of less than 10 microns (PM<sub>10</sub>) from fugitive dust during construction would all be below the National Ambient Air Quality Standards. Fugitive dust emissions would be temporary and localized. A National Emissions Standards for Hazardous Air Pollutants Title V permit would not be required for operations due to the low levels of estimated emissions. All stack emissions would be monitored.

### Geology and Soils

Small Impact. Construction-related impacts on the geology and soil would occur within the 81-hectare (200-acre) part of the site on which the proposed NEF structures would be built. Clay and gravel from a nearby site might be used during construction. No soil contamination would be expected during construction and operations. A plan would be in place to address any spills that might occur. There would be no construction or operational impacts on unique mineral deposits or geological resources.

## **Water Resources**

Small Impact. There are no existing surface water resources. National Pollutant Discharge Elimination System general permits for construction and operations would be required to manage stormwater. Retention basins (i.e., the Treated Effluent Evaporative Basin and the Uranium Byproduct Cylinder (UBC) Storage Pad Stormwater Retention Basin) would be lined to minimize infiltration of water into the subsurface. Infiltration from the Site Stormwater Detention Basin and septic system leach fields might form a perched layer on top of the Chinle Formation, but there would be limited downgradient transport because of the soil's storage capacity and upward flux to the root zone. Impacts on water use would be SMALL because of the availability of excess capacity in the Hobbs and Eunice water supply systems. The proposed NEF's indirect use of the Ogallala Aquifer's water through the Eunice and Hobbs water supply systems would constitute a small portion of the aquifer reserves in New Mexico.

## **Ecological Resources**

Small Impact. Construction, operation, and decommissioning of the proposed NEF would have SMALL impacts on ecological resources. There are no wetlands or unique habitats for threatened or endangered plant or animal species on the proposed NEF site. A large part of the site would remain undisturbed and in its natural state. The impacts of the use of water detention/retention basins would be SMALL because animal-friendly fencing and netting or other suitable material over the basins would be used to minimize animal intrusion. Revegetation using native plant species would be conducted in any areas impacted by proposed NEF activities. The design and construction of the electrical transmission lines would address the protection of birds from electric shock.

## **Socioeconomics**

Moderate Impact. During the 8-year construction period, an average of 397 jobs per year would be created (about 19 percent of the Lea, Andrews, and Gaines Counties' construction labor force). Employment would peak at 800 jobs in the fourth year. Spending on goods and services and wages would create about 582 new jobs per year on average. Construction would cost \$1.24 billion (in 2004 dollars). About 15 percent of the construction workforce would be expected to take up residency in the surrounding community, and about 15 percent of the local housing units are unoccupied. The impact on local schools would be minimal. During operation, the proposed NEF would employ a maximum of 210 people annually and would indirectly create an additional 173 jobs. The increase in demand for public services would be SMALL. Decontamination and decommissioning would generally have SMALL impacts. Use of a U.S. Department of Energy (DOE) conversion facility in Paducah, Kentucky, or near Portsmouth, Ohio, for disposition of depleted uranium hexafluoride (DUF<sub>6</sub>) could extend the operating life of the conversion facility and, therefore, the socioeconomic impacts of the operation. If a new private conversion facility were constructed, the resulting socioeconomic impacts would be similar to those expected for the construction and operation of the DOE conversion facility near Portsmouth, Ohio.

## **Environmental Justice**

Small Impact. The environmental justice study focused on an area within 80 kilometers (50 miles) of the proposed NEF site. Demographic data from the Year 2000 census data were analyzed to characterize minority and low-income populations near the proposed NEF site. In addition, State and local governments and representatives of the minority communities were contacted. The largest minority population within 80 kilometers (50 miles) of the proposed NEF site is the Hispanic/Latino population. Although the impacts to the general population were SMALL to MODERATE, an examination of the

various environmental pathways by which low-income and minority populations could be affected found no disproportionately high and adverse impacts from construction, operation, or decommissioning on minority and low-income populations living near the proposed NEF or along the transportation routes into and out of the proposed NEF.

## Noise

Small Impact. Noise would come predominantly from traffic. Construction activities could be limited to normal daytime working hours. The nearest residence is 4.3 kilometers (2.6 miles) from the proposed site, and noises from construction activities would be negligible at this distance. Noise levels during operations would be within the U.S. Department of Housing and Urban Development guidelines.

## Transportation

Small to Moderate Impact during Construction. Traffic on New Mexico Highway 234 would almost double during construction. Three injuries and less than one fatality might occur during the peak construction employment year due to workforce traffic and delivery of construction materials. Peak truck traffic during construction might cause less than one injury and less than one fatality.

Small Impact during Normal Operations; Small to Moderate during Accidents. Truck trips removing nonradioactive waste and delivering supplies would have a SMALL impact on the traffic on New Mexico Highway 234. Workforce traffic would also have a SMALL impact on New Mexico Highway 234 with less than one injury and less than one fatality expected annually due to traffic accidents. Truck shipments of feed, product, and waste materials (including DUF<sub>6</sub>) would result in two latent cancer fatalities to the general population over the life of the proposed NEF due to vehicle emissions and fewer than  $3 \times 10^{-2}$  latent cancer fatalities due to direct radiation. All rail shipments of feed, product, waste materials, and empty cylinders would result in fewer than  $8 \times 10^{-2}$  latent cancer fatalities to the general population over the life of the proposed NEF due to vehicle emissions and  $1 \times 10^{-1}$  latent cancer fatalities from direct radiation. If a rail accident involving the shipment of DUF<sub>6</sub> occurred in an urban area, up to 28,000 people could suffer adverse but temporary health effects with no fatalities due to chemical impacts. A truck accident involving the shipment of DUF<sub>6</sub> in an urban area could have temporary adverse chemical impacts on as many as 1,700 people.

Small Impact during Decommissioning. SMALL impacts would occur if DUF<sub>6</sub> were temporarily stored at the proposed NEF for the duration of operations. Assuming that all of the material were shipped during the first 8 years (the final radiation survey and decontamination would occur during the ninth year), the proposed NEF would ship approximately 1,966 truckloads per year. If the trucks were limited to weekday, non-holiday shipments, approximately 10 trucks per day or 2½ railcars per day would leave the site for the DUF<sub>6</sub> conversion facility.

## Public and Occupational Health and Safety

Small Impact during Construction and Normal Operations. During construction, a fatality would be unlikely (the probability of fatality is less than one fatality per year). Construction workers could receive radiation doses of up to 0.05 millisievert (5 millirem) per year once the proposed NEF begins operations. During normal operations, there would be approximately eight injuries per year and no fatalities, based on statistical probabilities. A typical operations or maintenance technician could be exposed to 1 millisievert (100 millirem) of radiation annually. A typical cylinder yard worker could be exposed to 3 millisieverts (300 millirem) of radiation annually. All public radiological exposures are significantly

below the 10 CFR Part 20 regulatory limit of 1 millisievert (100 millirem) and the 40 CFR Part 190 regulatory limit of 0.25 millisieverts (25 millirem) for uranium fuel cycle facilities. The nearest resident would receive less than  $1.3 \times 10^{-5}$  millisieverts ( $1.3 \times 10^{-3}$  millirem) due to proposed NEF operations.

Small to Moderate Impact for Accidents. The most severe accident is estimated to be the release of  $UF_6$  caused by the rupture of an overfilled and/or overheated cylinder, which could result in a collective population dose of 120 person-sieverts (12,000 person-rem) and seven latent cancer fatalities. The design of the proposed NEF would include certain features to significantly reduce the likelihood of this event.

## **Waste Management**

Small Impact. Solid wastes would be generated during construction and operations. Existing disposal facilities would have the capacity to dispose of the nonhazardous solid wastes. The proposed NEF would implement waste management programs to minimize waste generation and promote recycling where appropriate. In particular, impacts on the Lea County landfill would be SMALL. There would be enough existing national capacity to accept the low-level radioactive waste that would be generated at the proposed NEF.

Small to Moderate Impact for  $DUF_6$  Waste Management. Public and occupational exposures would be monitored and controlled to meet NRC regulations for radiation protection. LES identified two potential means for disposing of  $DUF_6$ : by private conversion and disposal facilities or by DOE through Section 3113 of the USEC Privatization Act. LES's preferred strategy is to use private facilities outside of the State of New Mexico to convert and dispose of the  $DUF_6$  byproduct. No final location has yet been determined for a private conversion facility. Alternatively, DOE would process the  $DUF_6$  by extending the operation of its conversion facilities. This would prolong the impacts of DOE's conversion facilities, as described in DOE's NEPA documentation. A private conversion facility would have much the same impacts as the planned DOE conversion facilities at Paducah, Kentucky, and Portsmouth, Ohio.

## **MITIGATION MEASURES**

Mitigation measures are discussed in Chapter 4 of the EIS following the evaluation of potential impacts to each resource area and then summarized in Chapter 5 of the EIS. Mitigation measures are those actions or processes (e.g., process controls and management plans) that would be implemented to control and minimize potential impacts from construction and operation activities. These measures are in addition to actions taken to comply with applicable laws and regulations (including permits). LES identified mitigation measures in the Environmental Report and in responses to requests for additional information that would reduce the environmental impacts associated with the proposed action. Tables 1 and 2 list the mitigation measures impact areas. LES did not identify mitigation measures for the impact areas of socioeconomics and environmental justice during construction and operations. This does not preclude additional mitigation measures that may be considered by LES based upon consultations with regulatory agencies other than NRC.

The NRC staff has reviewed the mitigation measures proposed by LES for the proposed NEF and has concluded that no additional mitigation measures other than those proposed by LES are required. The NRC staff has determined that additional mitigation measures are not likely to be sufficiently beneficial to warrant implementation.

**Table 1 Summary of Potential Mitigation Measures Proposed by LES for Construction**

<b>Impact Area</b>	<b>Activity</b>	<b>Proposed Mitigation Measures</b>
Land Use	Land disturbance	<p>Use best management practices (BMPs) to develop the smallest area of the site as practicable and use water spray on roads to suppress dust.</p> <p>Limit site slopes to a horizontal-vertical ratio of three to one or less.</p> <p>Use sedimentation detention basins.</p> <p>Protect undisturbed areas with silt fencing and straw bales as appropriate.</p> <p>Use site stabilization practices such as placing crushed stone on top of disturbed soil in areas of concentrated runoff.</p>
Geology and Soil	Soil disturbance	<p>Use construction BMPs and comply with a fugitive dust control plan and a Spill Prevention, Control, and Countermeasures Plan. BMPs include:</p> <ul style="list-style-type: none"> <li>• Minimize construction footprint.</li> <li>• Use water to control dust.</li> <li>• Promptly stabilize or cover bare areas once earthmoving activities are completed.</li> </ul> <p>Use earthen berms, dikes, and sediment fences as necessary to limit suspended solids in runoff. Stabilize and line drainage culverts and ditches with rock aggregate/riprap to reduce flow velocity and prohibit scouring.</p>
Geology and Soil <i>(continued)</i>		
Water Resources	Runoff	<p>Use BMPs for dust control, fill operations, erosion control measures, maintenance of equipment, stormwater runoff, and erosion controls.</p> <p>Use staging areas for materials and wastes and retention/detention basins to control runoff.</p> <p>Implement a Spill Prevention, Control, and Countermeasures Plan and a site Stormwater Pollution Prevention Plan.</p> <p>Berm all aboveground diesel storage tanks.</p>
	Water use	<p>Use low-water-consumptive landscaping techniques and install low-flow toilets, sinks, and showers and other efficient water-using equipment.</p> <p>Implement a waste management and recycling program to segregate and minimize industrial and hazardous waste.</p>
Ecological Resources	Disturbance of habitats	<p>Use construction BMPs to minimize the construction footprint and to control erosion, and manage stormwater including those associated with the construction of the water supply pipeline,</p>

Impact Area	Activity	Proposed Mitigation Measures	
Ecological Resources <i>(continued)</i>		<p>construction of the natural gas pipeline, relocation of the carbon dioxide pipeline, and construction of the electric transmission lines.</p> <p>Use native, low-water-consumptive vegetation in restored and landscaped areas.</p> <p>Consult with New Mexico Department of Game and Fish on the design and use of animal-friendly fencing and netting or other suitable material over basins to prevent use by migratory birds.</p> <p>Consult with water supply utilities on the New Mexico Department of Game and Fish wildlife protection guidance.</p> <p>Minimize the number of open trenches at any given time and keep trenching and backfilling crews close together.</p> <p>Trench during the cooler months (when possible).</p> <p>Avoid leaving trenches open overnight. Construct escape ramps at least every 90 meters (295 feet) and make the slope of the ramps less than 45 degrees. Inspect trenches that are left open overnight and remove animals prior to backfilling.</p> <p>Consult with the electric utility responsible for the construction of the new transmission line to address New Mexico Department of Game and Fish and Edison Electric Institute guidance for the protection of birds.</p> <p>Consider down-shielding of security lights consistent with security plan requirements.</p> <p>Implement pest management controls for mosquitoes if significant population develops.</p> <p>Implement weed control if a significant intrusion develops.</p>	
	Historical and Cultural Resources	Disturbance of prehistoric archaeological sites and sites eligible for listing on the National Register of Historic Places	Implement treatment plan developed in coordination with the NRC, the New Mexico State Historic Preservation Office, the State Land Office, Lea County, the Advisory Council on Historic Preservation, and affected Indian tribes for the sites eligible for listing on the National Register of Historic Places.
	Air Quality	Fugitive dust and construction equipment emissions	<p>Use BMPs for fugitive dust and for maintenance of vehicles and equipment to minimize air emissions.</p> <p>Implement “best available control measures” (identified in the Natural Events Action Plan being prepared by the New Mexico Environment Department Air Quality Bureau) as appropriate to the proposed NEF.</p> <p>In addition to those mitigative measures identified in Geology and</p>

<b>Impact Area</b>	<b>Activity</b>	<b>Proposed Mitigation Measures</b>
		<p>Soil above:</p> <ul style="list-style-type: none"> <li>• Use covers over load beds of open-bodied trucks.</li> <li>• Promptly remove earthen material on paved roads.</li> </ul>
Public and Occupational Health	Nonradiological effects from construction activities	Use BMPs and management programs associated with promoting safe construction practices.
Transportation	Traffic volume	<p>Use construction BMPs to suppress dust by watering down roads as necessary and maintain temporary roads.</p> <p>Convert the temporary access roads into permanent access roads upon completion of the construction.</p> <p>Cover open-bodied trucks when in motion, stabilize or cover bare earthen areas, ensure prompt removal of earthen materials from paved areas, and use containment methods during excavation activities.</p> <p>Use shift work during construction, operation, and decommissioning to reduce traffic on roadways.</p> <p>Encourage car pooling to reduce the number of workers' cars on the road.</p>
Waste Management	Generation of industrial and hazardous wastes (air and liquid emissions in "Air Quality" and "Water Resources," above)	<p>Use waste-staging areas to segregate and store wastes.</p> <p>Use BMPs that minimize the generation of solid waste.</p> <p>Perform a waste assessment and develop and use a waste recycling plan for nonhazardous materials.</p> <p>Conduct employee training on the recycling program.</p>
Visual and Scenic Resources	Potential visual intrusions in the existing landscape character	<p>Use accepted natural, low-water-consumption landscaping techniques.</p> <p>Consider down-shielding of security lights consistent with security plan requirements.</p> <p>Conduct prompt revegetation or covering of bare areas.</p>
Noise	Exposure of workers and the public to noise	<p>Maintain in proper working condition the noise-suppression systems on construction vehicles.</p> <p>Promote use of hearing protection for workers.</p>

**Table 2 Summary of Potential Mitigation Measures Proposed by LES for Operations**

<b>Impact Area</b>	<b>Activity</b>	<b>Proposed Mitigation Measures</b>
Land Use	Land disturbance	Stabilize bare areas with natural, low-water-maintenance landscaping and pavement.
Geology and Soil	Soil disturbance	<p>Implement a Spill Prevention, Control, and Countermeasures Plan.</p> <p>Use water to control dust.</p> <p>Use permanent retention/detention basins to collect stormwater and process water.</p> <p>Stabilize bare areas with natural, low-water-maintenance landscaping and pavement.</p>
Water Resources	Runoff	<p>Use staging areas for materials and wastes and retention/detention basins to control runoff.</p> <p>Implement a Spill Prevention, Control, and Countermeasure Plan and a site Stormwater Pollution Prevention Plan during operation.</p> <p>Perform visual inspections of the basins on a sufficient basis for high water levels and to verify proper functioning. Implement corrective actions for high water levels as needed to prevent overflowing.</p>
Water Resources <i>(continued)</i>	Water use	<p>Use low-water-consumptive landscaping techniques.</p> <p>Building and maintenance practices designed to reduce water consumption.</p> <p>Use closed-loop cooling systems.</p>
Ecological Resources	Disturbance of habitats	<p>Manage unused open areas (i.e., leave undisturbed), including areas of native grasses and shrubs for the benefit of wildlife.</p> <p>Conduct pest management and weed control if the presence of pest or weed intrusion is significant.</p> <p>Use native, low-water-consumptive vegetation in restored and landscaped areas.</p> <p>Use animal-friendly fencing and netting or other suitable material over basins to prevent use by migratory birds.</p>
Historical and Cultural Resources	Disturbance of prehistoric archaeological sites and sites eligible for listing on the	<p>Implement treatment plan developed in coordination among the NRC, the New Mexico State Historic Preservation Office, the State Land Office, Lea County, the Advisory Council on Historic Preservation, and affected Indian tribes for the sites eligible for listing on the National Register of Historic Places.</p>

Impact Area	Activity	Proposed Mitigation Measures
Air Quality	<p>National Register of Historic Places</p> <p>Fugitive dust and construction equipment emissions</p>	<p>Implement “best available control measures” (identified in the Natural Events Action Plan being prepared by the New Mexico Environment Department Air Quality Bureau) as appropriate to the proposed NEF.</p>
Waste Management	<p>Generation of industrial, hazardous, radiological, and mixed wastes (air emissions are addressed under “Air Quality” on page 5-2, and liquid emissions are addressed under “Water Resources” on page 5-4)</p>	<p>Use a storage array that permits easy visual inspection of all cylinders, with uranium byproduct cylinders (UBCs) stacked no more than two high.</p> <p>Segregate the storage pad areas from the rest of the enrichment facility by barriers (e.g., vehicle guardrails).</p> <p>Prior to placing the UBCs on the UBC Storage Pad or transporting them offsite, inspect the cylinders for external contamination (a “wipe test”) using a maximum level of removable surface contamination allowable on the external surface of the cylinder of no greater than 0.4 becquerel per square centimeter (22 disintegrations per minute per square centimeter) (beta, gamma, alpha) on accessible surfaces averaged over 300 square centimeters (46.5 square inches).</p> <p>Take steps to ensure that UBCs are not equipped with defective valves (identified in NRC Bulletin 2003-03, “Potentially Defective 1-Inch Valves for Uranium Hexafluoride Cylinders”) (NRC, 2003).</p>
Waste Management	<i>(continued)</i>	<p>Allow only designated vehicles with less than 280 liters (74 gallons) of fuel in the UBC Storage Pad area.</p> <p>Allow only trained and qualified personnel to operate vehicles on the UBC Storage Pad area.</p> <p>Inspect cylinders of UF<sub>6</sub> prior to placing a filled cylinder on the UBC Storage Pad and annually inspect UBCs for damage or surface coating defects. Inspections would ensure:</p> <ul style="list-style-type: none"> <li>• Lifting points are free from distortion and cracking.</li> <li>• Cylinder skirts and stiffener rings are free from distortion and cracking.</li> <li>• Cylinder surfaces are free from bulges, dents, gouges, cracks, or significant corrosion.</li> <li>• Cylinder valves are fitted with the correct protector and cap.</li> <li>• Cylinder valves are straight and not distorted, two to six threads are visible, and the square head of the valve stem is undamaged.</li> <li>• Cylinder plugs are undamaged and not leaking.</li> </ul>

Impact Area	Activity	Proposed Mitigation Measures
		<p>If inspection of a UBC reveals significant deterioration or other conditions that may affect the safe use of the cylinder, the contents of the affected cylinder shall be transferred to another cylinder and the defective cylinder shall be discarded. The root cause of any significant deterioration would be determined, and if necessary, additional inspections of cylinders shall be made.</p> <p>Monitor all site detention/retention basins.</p> <p>Use waste-staging areas to segregate and store wastes and volume reduce/minimize wastes through a waste management program and associated procedures.</p> <p>Use operating practices that minimize the generation of solid wastes, liquid wastes, liquid effluents, and gaseous effluents and that minimize energy consumption.</p> <p>Perform a waste assessment and develop and use a waste recycling plan for nonhazardous materials.</p> <p>Conduct employee training on the waste recycling program.</p> <p>Implement as-low-as-reasonably-achievable concepts and waste minimization and reuse techniques to minimize radioactive waste generation.</p> <p>Implement a Spill Prevention, Control, and Countermeasures Plan.</p>

<b>Impact Area</b>	<b>Activity</b>	<b>Proposed Mitigation Measures</b>
Visual and Scenic Resources	Potential visual intrusions in the existing landscape character	Use accepted natural, low-water-consumption landscaping techniques. Consider down-shielding of security lights consistent with security plan requirements. Conduct prompt revegetation or covering of bare areas.
Noise	Exposure of workers and the public to noise	Maintain in proper working condition the noise-suppression systems on vehicles and any outdoor equipment. Promote use of hearing protection for workers.

## **SUMMARY OF THE COSTS AND BENEFITS OF THE PROPOSED ACTION**

The costs of construction activities would be approximately \$1.24 billion (in 2004 dollars), excluding escalation, contingencies, and interest. About one-third of the cost of constructing the facility would be spent locally for goods, services, and wages.

During operations, about \$10.9 million in wages and benefits and \$9.9 million for local goods and services would be spent annually. Construction and operation of the facility would have additional indirect economic impacts by creating additional employment and economic activity. Tax revenues from gross receipts and income would go primarily to the State of New Mexico and would total between \$148 million and \$180 million (in 2004 dollars) over the life of the proposed NEF. Property taxes would total between \$10.4 million and \$14.5 million (in 2004 dollars) and go to Lea County, New Mexico.

Decontamination and decommissioning are estimated to cost approximately \$941.6 million (in 2004 dollars). Locating a private conversion facility near the proposed NEF would have a greater economic impact on the local community, creating approximately 180 jobs, than if the DUF<sub>6</sub> were shipped to another location for conversion.

Chapter 7 of the EIS summarizes costs and benefits associated with the proposed action and the no-action alternative. Chapter 4 of the EIS discusses the potential socioeconomic impacts of the construction, operation, and decommissioning of the proposed NEF by LES.

## **COMPARISON OF ALTERNATIVES**

In the no-action alternative, the proposed NEF would not be constructed, operated, and decommissioned in Lea County, New Mexico. The Paducah Gaseous Diffusion Plant in Paducah, Kentucky, and the downblending of highly enriched uranium under the "Megatons to Megawatts" program (both are managed by USEC) would remain the sole source of domestically generated low-enriched uranium for U.S. commercial nuclear power plants. Foreign enrichment sources would continue to supply more than 85 percent of U.S. nuclear power plants' demand until other new domestic enrichment facilities were constructed and operated. In the long term, this could lead to increased reliance on foreign suppliers for enrichment services.

The no-action alternative would have no local impact on current land use; visual/scenic resources; air, water, and ecological resources; geology and soils; socioeconomics; environmental justice; transportation; and waste management. However, the failure to construct and operate the proposed NEF

could have SMALL to MODERATE impacts on historical and cultural resources; historical sites identified at the proposed NEF could be exposed to further weathering and the possibility of human intrusion, unless applicable Federal and State historic preservation laws and regulations were followed. Additional domestic enrichment facilities could be constructed in the future with impacts expected to be SMALL to MODERATE, depending on the site-specific conditions.

In comparison to the no-action alternative, the proposed action would also have SMALL impacts on land use; historical and cultural resources; visual/scenic resources; air, water, and ecological resources; geology and soils; noise; and environmental justice. The most serious accident that might occur, the rupture of an overfilled and/or overheated cylinder, would have SMALL to MODERATE impacts. Waste management impacts could be SMALL to MODERATE if the uranium byproduct cylinders are temporarily stored on site until decommissioning begins, though this is not contemplated by LES. Transportation impacts are expected to be MODERATE during the construction period due to increased traffic on New Mexico Highway 234. Otherwise, transportation impacts are expected to be SMALL.

### **STAFF RECOMMENDATION REGARDING THE PROPOSED ACTION**

After weighing the impacts of the proposed action and comparing alternatives, the NRC staff, in accordance with 10 CFR § 51.71(e), sets forth its NEPA recommendation regarding the proposed action. The NRC staff recommends that, unless safety issues mandate otherwise, the proposed license be issued to LES. In this regard, the NRC staff has concluded that the applicable environmental monitoring program described in Chapter 6 and the proposed mitigation measures discussed in Chapter 5 would eliminate or substantially lessen any potential adverse environmental impacts associated with the proposed action.

The NRC staff has concluded the overall benefits of the proposed NEF outweigh the environmental disadvantages and costs based on consideration of the following:

1. The need for an additional, reliable, economical, domestic source of enrichment services.
2. The beneficial economic impacts of the proposed NEF on the local communities which have been determined to be MODERATE.
3. The remaining impacts on the physical environment and human communities would be small with the exception of short-term impacts associated with construction traffic, accidents, and waste management, which would be SMALL to MODERATE.

**Table 3 Summary of Environmental Impacts for the Proposed NEF and the No-Action Alternative**

<b>Affected Environment</b>	<b>Proposed Action:</b>	<b>No-Action Alternative:</b>
Land Use	<i>LES would construct, operate, and decommission the proposed NEF in Lea County, New Mexico.</i>	<i>The proposed NEF would not be constructed, operated and decommissioned. Enrichment services would continue to be met with existing domestic and foreign uranium enrichment suppliers.</i>
	SMALL. Construction activities would occur on about 81 hectares (200 acres) of a 220-hectare (543-acre) site that would be fenced. While the land is currently undisturbed except for an access road, CO <sub>2</sub> pipeline, and cattle grazing, there are sufficient lands surrounding the proposed NEF for relocation of the cattle grazing and the CO <sub>2</sub> pipeline. Impacts from installation of municipal water supply piping, natural gas supply piping, and electrical transmission lines would also be SMALL.	SMALL. Under the no-action alternative, no local impact would occur because the proposed NEF would not be constructed or operated. The land use of cattle grazing would continue and the property would be available for alternative use. There would also be no land disturbances. Impacts to local land use would be expected to be SMALL.  The existing activities such as enrichment services from existing uranium enrichment facilities, from foreign sources, and from the “Megatons to Megawatts” program would have impacts as previously analyzed in their respective NEPA documentation and historical environmental monitoring.  Additional domestic enrichment facilities could be constructed in the future and would have land use impacts that would be similar to those of the proposed action, depending on site conditions either at a new location or an existing industrial site. Impacts to land use would be expected to be SMALL.

Affected Environment	Proposed Action:	No-Action Alternative:
Historical and Cultural Resources	<i>LES would construct, operate, and decommission the proposed NEF in Lea County, New Mexico.</i>	<i>The proposed NEF would not be constructed, operated and decommissioned. Enrichment services would continue to be met with existing domestic and foreign uranium enrichment suppliers.</i>
	SMALL. Seven archaeological sites were recorded on the proposed site. All of these sites are considered potentially eligible for listing on the National Register of Historic Places. Two sites would be impacted by construction activities, and a third is located along the access road. Based on the terms and conditions of a Memorandum of Agreement, a historic properties treatment plan would be fully implemented prior to construction of the proposed NEF. Once measures from the treatment plan are implemented, adverse impacts would be mitigated.	<p>SMALL to MODERATE. Under the no-action alternative, the land would continue to be used for cattle grazing and historical and cultural resources would remain in place unaffected by the proposed action. Without the proposed treatment plan and its mitigation measures, historical sites identified at the proposed NEF site could be exposed to the possibility of human intrusion and continued weathering. Local impacts to historical and cultural resources would be expected to be SMALL, providing that requirements included in applicable Federal and State historic preservation laws and regulations are followed or could be MODERATE if not followed.</p> <p>The existing activities such as enrichment services from existing uranium enrichment facilities, from foreign sources, and from the “Megatons to Megawatts” program would have impacts as previously analyzed in their respective NEPA documentation and historical environmental monitoring.</p> <p>Additional domestic enrichment facilities could be constructed in the future and could have potential impacts to cultural resources if at a new location. The impacts would be expected to be SMALL if built and operated at an existing industrial site. The impacts could be SMALL to MODERATE if additional domestic enrichment facilities were located at a new site, depending on the specific site conditions.</p>

Affected Environment	Proposed Action:	No-Action Alternative:
Visual and Scenic Resources	<i>LES would construct, operate, and decommission the proposed NEF in Lea County, New Mexico.</i>	<i>The proposed NEF would not be constructed, operated and decommissioned. Enrichment services would continue to be met with existing domestic and foreign uranium enrichment suppliers.</i>
	SMALL. Impacts from construction activities would be limited to fugitive dust emissions that can be controlled using dust-suppression techniques. The proposed NEF cooling towers could contribute to the formation of local fog less than 0.5 percent of the total number of hours per year (44 hours per year). The proposed NEF site received the lowest scenic-quality rating using the BLM visual resource inventory process.	SMALL. Under the no-action alternative, the visual and scenic resources would remain the same as described in the affected environment section. Local impacts to visual and scenic resources would be expected to be SMALL.  The existing activities such as enrichment services from existing uranium enrichment facilities, from foreign sources, and from the “Megatons to Megawatts” program would have impacts as previously analyzed in their respective NEPA documentation and historical environmental monitoring.  Additional domestic enrichment facilities could be constructed in the future and would have visual and scenic resources impacts that would be similar to those of the proposed action, depending on site conditions either at a new location or an existing industrial site. Impacts to visual and scenic resources would be expected to be SMALL.

Affected Environment	Proposed Action:	No-Action Alternative:
Air Quality	<p><i>LES would construct, operate, and decommission the proposed NEF in Lea County, New Mexico.</i></p>	<p><i>The proposed NEF would not be constructed, operated and decommissioned. Enrichment services would continue to be met with existing domestic and foreign uranium enrichment suppliers.</i></p>
	<p>SMALL. Air concentrations of the criteria pollutants predicted for vehicle emissions and PM<sub>10</sub> emissions for fugitive dust during construction would all be below the National Ambient Air Quality Standards, temporary, and highly localized. A NESHAP Title V permit would not be required for operations due to the low levels of estimated emissions.</p>	<p>SMALL. Under the no-action alternative, air quality in the general area would remain at its current levels described in the affected environment section. Impacts to air quality would be expected to be SMALL.</p> <p>The existing activities such as enrichment services from existing uranium enrichment facilities, from foreign sources, and from the “Megatons to Megawatts” program would have impacts as previously analyzed in their respective NEPA documentation and historical environmental monitoring.</p> <p>Additional domestic enrichment facilities could be constructed in the future . Depending on the construction methods and design of these facilities, the likely impact on air quality would be similar to the proposed action. Impacts to air quality would be expected to be SMALL.</p>

Affected Environment	Proposed Action:	No-Action Alternative:
Geology and Soils	<p><i>LES would construct, operate, and decommission the proposed NEF in Lea County, New Mexico.</i></p> <p>SMALL. Construction-related impacts to soil would occur within the 81-hectare (200-acre) portion of the site that would contain the proposed NEF structures. Only onsite soils would be used during construction except for clay and gravel from a nearby quarry. No soil contamination would be expected during construction and operations although soil contamination could occur. A plan would be in place to address any spills that may occur during operations and any contaminated soil in excess of regulatory limits would be properly disposed of.</p>	<p><i>The proposed NEF would not be constructed, operated and decommissioned. Enrichment services would continue to be met with existing domestic and foreign uranium enrichment suppliers.</i></p> <p>SMALL. Under the no-action alternative, the land would continue to be used for cattle grazing. The geology and soils on the proposed site would remain unaffected because no land disturbance would occur. Natural events such as wind and water erosion would remain as the most significant variable associated with the geology and soils of the site. Impacts to geology and soils would be expected to be SMALL.</p> <p>The existing activities such as enrichment services from existing uranium enrichment facilities, from foreign sources, and from the “Megatons to Megawatts” program would have impacts as previously analyzed in their respective NEPA documentation and historical environmental monitoring.</p> <p>Additional domestic enrichment facilities could be constructed in the future and would have geology and soils impacts that would be similar to those of the proposed action, depending on site conditions either at a new location or an existing industrial site. Impacts to geology and soils would be expected to be SMALL.</p>

Affected Environment	Proposed Action:	No-Action Alternative:
Water Resources	<p><i>LES would construct, operate, and decommission the proposed NEF in Lea County, New Mexico.</i></p> <p>SMALL. There are no existing surface water resources, and groundwater resources under the proposed NEF site are not considered potable or near the surface. NPDES general permits for construction and operations would be required to manage stormwater runoff. Construction-related impacts would be SMALL to both surface water and groundwater. Retention basins (i.e., the Treated Effluent Evaporative Basin and the UBC Storage Pad Stormwater Retention Basin) would be lined to minimize infiltration of water into the subsurface. Infiltration from the Site Stormwater Detention Basin and septic systems' leach fields could be expected to form a perched layer on top of the Chinle Formation, but there would be limited downgradient transport due to soil-storage capacity and upward flux to the root zone. Operations impacts would be SMALL. Impacts on water use would be SMALL due to the availability of excess capacity in the Hobbs and Eunice water systems. The proposed NEF's use of Ogallala waters indirectly through the Eunice and Hobbs water-supply systems would constitute a small portion of the aquifer reserves in New Mexico.</p>	<p><i>The proposed NEF would not be constructed, operated and decommissioned. Enrichment services would continue to be met with existing domestic and foreign uranium enrichment suppliers.</i></p> <p>SMALL. Under the no-action alternative, water resources would remain the same as described in the affected environment section. Water supply demand would continue at the current rate. The natural surface flow of stormwater on the site would continue, and potential groundwater contamination could occur due to surrounding operations related to the oil industry. Impacts to water resources local to Lea County would be expected to be SMALL.</p> <p>The existing activities such as enrichment services from existing uranium enrichment facilities, from foreign sources, and from the "Megatons to Megawatts" program would have impacts as previously analyzed in their respective NEPA documentation and historical environmental monitoring.</p> <p>Additional domestic enrichment facilities could be constructed in the future. Depending on the design, location of these facilities and local water resources, the likely impact on water resources (including water usage) would be similar to the proposed action. Impacts to water resources would be expected to be SMALL</p>

Affected Environment	Proposed Action:	No-Action Alternative:
Ecological Resources	<p><i>LES would construct, operate, and decommission the proposed NEF in Lea County, New Mexico.</i></p> <p>SMALL. There are no wetlands or unique habitats for threatened or endangered plant or animal species on the proposed NEF site. Impacts from use of stormwater detention/retention basins would be SMALL. Animal-friendly fencing and netting or other suitable material over the basins (where appropriate) would be used to minimize animal intrusion. Revegetation using native plant species would be conducted in any areas impacted by construction, operation, and decommissioning activities.</p>	<p><i>The proposed NEF would not be constructed, operated and decommissioned. Enrichment services would continue to be met with existing domestic and foreign uranium enrichment suppliers.</i></p> <p>SMALL. Under the no-action alternative, the land would continue to be used for cattle grazing and the ecological resources would remain the same as described in the affected environmental section. Local land disturbances would also be avoided. Impacts to ecological resources would be expected to be SMALL</p> <p>The existing activities such as enrichment services from existing uranium enrichment facilities, from foreign sources, and from the “Megatons to Megawatts” program would have impacts as previously analyzed in their respective NEPA documentation and historical environmental monitoring.</p> <p>Additional domestic enrichment facilities could be constructed in the future and would have ecological resources impacts that would be similar to those of the proposed action, depending on the site conditions either at a new location or an existing industrial site. Impacts to ecological resources would be expected to be SMALL.</p>
Socioeconomics	<p>MODERATE. During the 8-year construction period, there would be an average of 397 jobs per year created (about 19 percent of the Lea, Andrews, and Gaines counties’ construction labor force) with employment peaking at 800 jobs in the fourth year. Construction would cost \$1.24 billion (2004 dollars). Spending on goods and services and wages would create 582 new jobs on average. About 15 percent of the construction work force would take up residency in the surrounding community, and about 15 percent of the local housing</p>	<p>SMALL to MODERATE. Under the no-action alternative, socioeconomics in the local area would continue as described in the affected environmental section. The socioeconomic impacts would be SMALL.</p> <p>The existing activities such as enrichment services from existing uranium enrichment facilities, from foreign sources, and from the “Megatons to Megawatts” program would have impacts as previously analyzed in their respective NEPA documentation and historical environmental monitoring.</p>

Affected Environment	Proposed Action:	No-Action Alternative:
	<i>LES would construct, operate, and decommission the proposed NEF in Lea County, New Mexico.</i>	<i>The proposed NEF would not be constructed, operated and decommissioned. Enrichment services would continue to be met with existing domestic and foreign uranium enrichment suppliers.</i>
	<p>units are unoccupied. The impact to housing and the educational system would be SMALL. Gross receipts taxes paid by LES and local businesses could approach \$3.1 million during the 8-year construction period. Income taxes during construction are estimated to be about \$4.1 million annually. LES would employ 210 people annually during peak operations with an additional 173 indirect jobs with about \$20.8 million in annual operations spending. Increase in demand for public services would be SMALL. Decommissioning would have a SMALL impact. Approximately 300 direct and indirect jobs at Paducah, Kentucky, or Portsmouth, Ohio, would be extended for 11 to 15 years, respectively, if DUF<sub>6</sub> conversion takes place at either site. If a private conversion facility is constructed, approximately 180 total jobs would be created. The tax revenue impacts of the proposed NEF operations to Lea County and the city of Eunice would be MODERATE given the size of current property tax collection and gross receipts taxes received from the State of New Mexico.</p>	<p>Additional domestic enrichment facilities in the future could be constructed. Depending on the construction methods, design of these facilities and local demographics, the likely socioeconomic impact would be similar to the proposed action. Socioeconomic impacts would be expected to be SMALL to MODERATE.</p>

Affected Environment	Proposed Action:	No-Action Alternative:
Environmental Justice	<p><i>LES would construct, operate, and decommission the proposed NEF in Lea County, New Mexico.</i></p> <p>SMALL. The environmental justice study was chosen to encompass an 80-kilometer (50-mile) radius around the proposed NEF site. Demographic data from the 2000 census data were analyzed to characterize minority and low-income populations near the proposed NEF site. In addition, state and local governments and representatives of the minority community were contacted. The largest minority population within 80 kilometers (50 miles) of the proposed NEF site is the Hispanics/Latino population. Although the impacts to the general population were SMALL to MODERATE, examination of the various environmental pathways by which low-income and minority populations could be affected found no disproportionately high and adverse impacts from construction, operation or decommissioning would occur to minority and low-income populations living near the proposed NEF or along the transportation routes into and out of the proposed NEF.</p>	<p><i>The proposed NEF would not be constructed, operated and decommissioned. Enrichment services would continue to be met with existing domestic and foreign uranium enrichment suppliers.</i></p> <p>SMALL. Under the no-action alternative, no changes to environmental justice issues other than those that may already exist in the community would occur. No disproportionately high or adverse impacts would be expected. Environmental justice impacts would be expected to be SMALL.</p> <p>The existing activities such as enrichment services from existing uranium enrichment facilities, from foreign sources, and from the “Megatons to Megawatts” program would have impacts as previously analyzed in their respective NEPA documentation and historical environmental monitoring.</p> <p>Additional domestic enrichment facilities in the future could be constructed, with site-specific impacts on environmental justice. The impacts could be similar to the proposed action if the location has a similar population distribution or at a site with a similar industrial process. Environmental justice impacts would be expected to be SMALL under most likely circumstances.</p>

Affected Environment	Proposed Action:	No-Action Alternative:
Noise	<p><i>LES would construct, operate, and decommission the proposed NEF in Lea County, New Mexico.</i></p> <p>SMALL. Noise levels would be predominately due to traffic noise. Construction and decommissioning activities could be limited to normal daytime working hours. The nearest residence would be 4.3 kilometers (2.6 miles) away from the proposed site, and noises at this distance from construction activities would be SMALL. Noise levels during operations would primarily be confined to inside buildings and would be within the U.S. Department of Housing and Urban Development guidelines.</p>	<p><i>The proposed NEF would not be constructed, operated and decommissioned. Enrichment services would continue to be met with existing domestic and foreign uranium enrichment suppliers.</i></p> <p>SMALL. Under the no-action alternative, there would be no construction or operational activities or processes that would generate noise. Noise levels would remain as is currently observed at the site. Noise impacts would be expected to be SMALL.</p> <p>The existing activities such as enrichment services from existing uranium enrichment facilities, from foreign sources and from the “Megatons to Megawatts” program would have impacts as previously analyzed in their respective NEPA documentation and historical environmental monitoring.</p> <p>Additional domestic enrichment facilities could be constructed in the future. Depending on the construction methods, design of these facilities, and surrounding land uses, the likely noise impact would be similar to the proposed action. Noise impacts would be expected to be SMALL.</p>

Affected Environment	Proposed Action:	No-Action Alternative:
Transportation	<p><i>LES would construct, operate, and decommission the proposed NEF in Lea County, New Mexico.</i></p> <p>SMALL to MODERATE during construction. Traffic on New Mexico Highway 234 would almost double during construction for a period of approximately two years, and three injuries and less than one fatality could occur during the peak construction employment year due to work force traffic. Peak truck traffic during construction could cause less than one injury and less than one fatality. New Mexico Highway 18 is a four-lane road; therefore impacts to it would be smaller than to New Mexico Highway 234.</p> <p>SMALL during operations. Truck trips removing nonradioactive waste and delivering supplies would have a small impact on the traffic on New Mexico Highway 234. Work force traffic would also have a SMALL impact on New Mexico Highways 18 and 234 with less than one injury and less than one fatality annually due to traffic accidents. All truck shipments of feed, product, and waste materials would result in less than <math>3 \times 10^{-2}</math> latent cancer fatalities to the public and workers from direct radiation and two or less from vehicle emissions. All rail shipments of feed, product, waste materials, and empty cylinders would result in less than <math>1 \times 10^{-1}</math> latent cancer fatalities to the public and workers from direct radiation and less than <math>8 \times 10^{-2}</math> from vehicle emissions during the life of the facility.</p>	<p><i>The proposed NEF would not be constructed, operated and decommissioned. Enrichment services would continue to be met with existing domestic and foreign uranium enrichment suppliers.</i></p> <p>SMALL to MODERATE. Under the no-action alternative, traffic volumes and patterns would remain the same as described in the affected environment section. The current volume of radioactive material and chemical shipments would not increase. Transportation impacts would be expected to be SMALL.</p> <p>The existing activities such as enrichment services from existing uranium enrichment facilities, from foreign sources, and from the “Megatons to Megawatts” program would have impacts as previously analyzed in their respective NEPA documentation and historical environmental monitoring.</p> <p>Additional domestic enrichment facilities in the future could be constructed and would have transportation impacts that would be similar to those of the proposed action, depending on site conditions either at a new location or an existing industrial facility. Impacts to transportation would be expected to be SMALL to MODERATE.</p>

Affected Environment	Proposed Action:	No-Action Alternative:
Transportation (continued)	<i>LES would construct, operate, and decommission the proposed NEF in Lea County, New Mexico.</i>	<i>The proposed NEF would not be constructed, operated and decommissioned. Enrichment services would continue to be met with existing domestic and foreign uranium enrichment suppliers.</i>
	SMALL to MODERATE during accidents. If a rail accident involving the shipment of DUF <sub>6</sub> occurs in an urban area, approximately 28,000 people could suffer adverse, but temporary, health effects with no fatalities due to chemical impacts. A truck accident involving the shipment of DUF <sub>6</sub> in an urban area could cause temporary adverse chemical impacts to approximately 1,700 people.	
	SMALL during decommissioning if DUF <sub>6</sub> is temporarily stored at the proposed NEF for the duration of operations. Assuming that all material is shipped during the first 8 years (the final radiation survey and decontamination would occur during year 9), the proposed NEF would make about 1,966 truck shipments per year. If the trucks are limited to weekday, non-holiday shipments, approximately 10 trucks per day or 2-1/2 railcars per day would leave the site for the DUF <sub>6</sub> conversion facility.	

Affected Environment	Proposed Action:	No-Action Alternative:
Public and Occupational Health	<p><i>LES would construct, operate, and decommission the proposed NEF in Lea County, New Mexico.</i></p> <p>SMALL during construction and normal operations. During construction, there could be less than one fatality per year based on State statistics from the year 2002. Construction workers could receive up to 0.05 millisieverts (5 millirem) of radiation exposure per year once proposed NEF operations are initiated. Precautions would be taken to prevent injuries and fatalities. During operations, there would be approximately eight injuries per year and <math>4 \times 10^{-4}</math> fatalities per year due to nonradiological occurrences based on statistical probabilities. A typical operations or maintenance technician could receive 1 millisievert (100 mrem) of radiation exposure annually. A typical cylinder yard worker could receive 3 millisievert (300 mrem) of radiation exposure annually. All public radiological exposures are significantly below the 10 CFR Part 20 regulatory limit of 1 millisieverts (100 millirem) and 40 CFR Part 190 regulatory limit of 0.25 millisieverts (25 millirem) for uranium fuel-cycle facilities. The nearest resident would receive less than <math>1.3 \times 10^{-5}</math> millisievert (<math>1.3 \times 10^{-3}</math> millirem) due to proposed NEF operations.</p> <p>SMALL to MODERATE for accidents. Although highly unlikely, the most severe accident is estimated to be the release of UF<sub>6</sub> caused by rupturing an over-filled and/or</p>	<p><i>The proposed NEF would not be constructed, operated and decommissioned. Enrichment services would continue to be met with existing domestic and foreign uranium enrichment suppliers.</i></p> <p>SMALL to MODERATE. Under the no-action alternative, the public health would remain the same as described in the affected environment section. No radiological exposures are estimated to the general public other than from background radiation levels. Local public and occupational health impacts would be expected to remain SMALL.</p> <p>The existing activities such as enrichment services from existing uranium enrichment facilities, from foreign sources, and from the “Megatons to Megawatts” program would have impacts as previously analyzed in their respective NEPA documentation and historical environmental monitoring.</p> <p>Additional domestic enrichment facilities could be constructed in the future. Depending on the construction methods and design of these facilities, the likely public and occupational health impacts from normal operations and accidents would be similar to the proposed action. Public and occupational health impacts for additional domestic enrichment facilities would be expected to be SMALL to MODERATE.</p>

Affected Environment	Proposed Action:	No-Action Alternative:
	<i>LES would construct, operate, and decommission the proposed NEF in Lea County, New Mexico.</i>	<i>The proposed NEF would not be constructed, operated and decommissioned. Enrichment services would continue to be met with existing domestic and foreign uranium enrichment suppliers.</i>
Public and Occupational Health <i>(continued)</i>	over-heated cylinder, which could incur a collective population dose of 120 person-sieverts (12,000 person-rem) and seven latent cancer fatalities. The proposed NEF design reduces the likelihood of this event by using redundant heater controller trips.	
Waste Management	SMALL. Solid wastes would be generated during construction and operations. Existing disposal facilities would have the capacity to dispose of the nonhazardous solid wastes. The proposed NEF would implement waste management programs to minimize waste generation and promote recycling where appropriate. In particular, impacts to the Lea County Landfill would be SMALL. There would be enough existing national capacity to accept the low-level radioactive waste that could be generated at the proposed NEF.	SMALL to MODERATE. Under the no-action alternative, new wastes including sanitary, hazardous, low-level radioactive wastes, or mixed wastes would not be generated that would require disposition. Local impacts from waste management would be expected to remain SMALL.  The existing activities such as enrichment services from existing uranium enrichment facilities, from foreign sources, and from the “Megatons to Megawatts” program would have impacts as previously analyzed in their respective NEPA documentation and historical environmental monitoring.
Waste Management <b>(continued)</b>	SMALL to MODERATE impact for DUF <sub>6</sub> Waste Management. Public and occupational exposures would be monitored and controlled to meet NRC regulations for radiation protection. LES identified two potential pathways for the disposition of DUF <sub>6</sub> , either by private conversion and disposal facilities or by DOE through Section 3113 of the USEC Privatization Act. LES’s preferred strategy is to have the DUF <sub>6</sub> byproduct converted and disposed of using private facilities outside of the State of New Mexico. No final location has yet been determined for a private conversion facility. Alternatively, DOE’s processing of the DUF <sub>6</sub> would extend operation of its conversion facilities. This would	Additional domestic enrichment facilities could be constructed in the future. Depending on the construction methods, design of these facilities, and the status of DUF <sub>6</sub> conversion facilities, the likely waste management impacts would be similar to the proposed action. For additional domestic enrichment facilities, impacts from waste management would be expected to be SMALL to MODERATE.

Affected Environment	Proposed Action:	No-Action Alternative:
	<i>LES would construct, operate, and decommission the proposed NEF in Lea County, New Mexico.</i>	<i>The proposed NEF would not be constructed, operated and decommissioned. Enrichment services would continue to be met with existing domestic and foreign uranium enrichment suppliers.</i>

prolong their associated impacts as described in DOE's NEPA documentation. A private conversion facility would have comparable impacts to the planned DOE conversion facilities at Paducah, Kentucky, and Portsmouth, Ohio.