A. TOBLIN STAFF EXHIBIT 1

NIRS/PC EC-1

NUREG-1790

Environmental Impact Statement for the Proposed National Enrichment Facility in Lea County, New Mexico

Draft Report for Comment

U.S. Nuclear Regulatory Commission
Office of Nuclear Material Safety and Safeguards
Washington, DC 20555-0001

The proposed NEF site is located within the Central Basin Platform area. The Central Basin Platform divides the Permian Basin into the Midland and Delaware subbasins. The top of the Permian deposits are approximately 434 meters (1,425 feet) below ground surface at the proposed NEF site. Overlying the Permian are the sedimentary rocks of the Triassic Age Dockum Group.

The upper formation of the Dockum Group is the Chinle Formation, a tight claystone and silty clay layer. The Chinle Formation is regionally extensive with outcrops as far away as the Grand Canyon region in Arizona. In the vicinity of the site, the Chinle Formation consists of red, purple, and greenish micaceous claystone and siltstone with interbedded fine-grained sandstone. The Chinle (also known as Red Bed) Formation is overlain by Tertiary Ogallala, Gatuña, or Antlers Formations (alluvial deposits). Only the latter two are found at the proposed NEF site. Caliche is a partly indurated zone of calcium carbonate accumulation formed in the upper layers of surficial deposits. Soft caliche is interbedded with the alluvial deposits near the surface. A fractured caliche layer can be found extending to the surface near the proposed NEF site. This "caprock" is not present at the proposed NEF site. Quaternary (dune) sands frequently overlie the Tertiary alluvial deposits (LES, 2004a). Figure 3-16 shows a generalized cross-section of these formations in the site area.

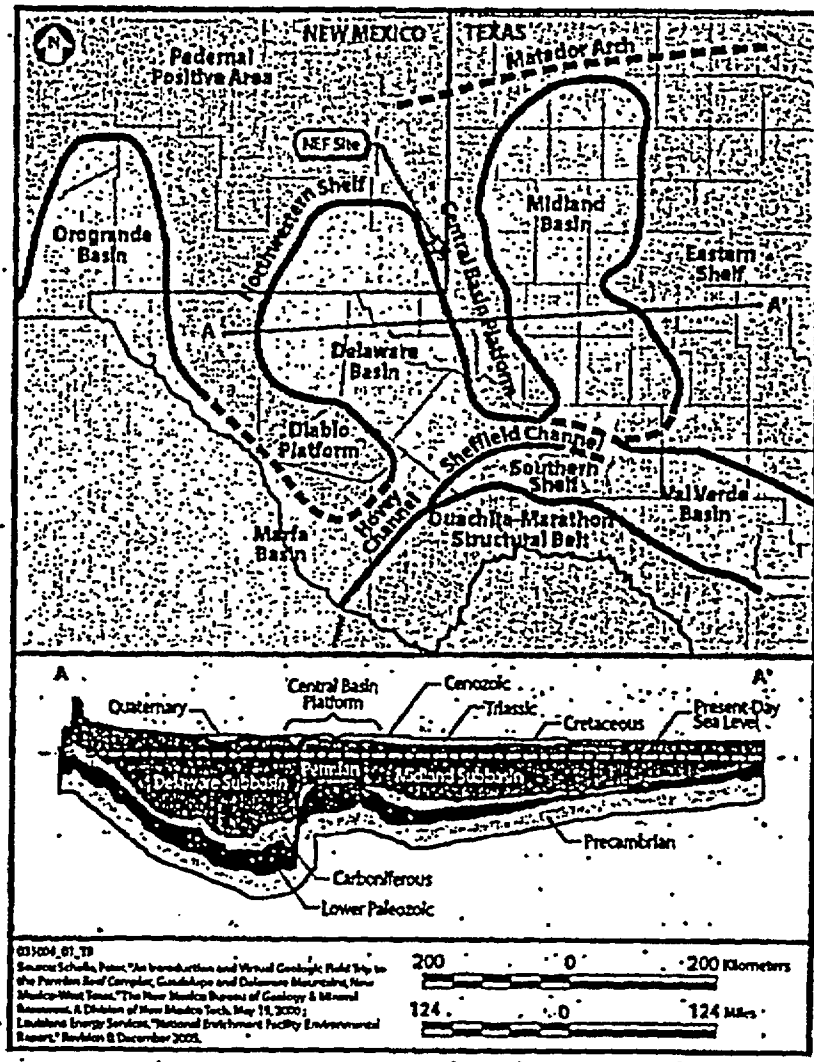

Figure 3-15 Major Physiographic Features of the Permian Basin (Scholle, 2000; LES, 2004a)

Red Bed Ridge is an escarpment of about 15 meters (50 feet) in height that occurs just north and northeast of the proposed NEF site. It is a buried ridge on the upper surface of the Red Bed Formation and extends for at least 161 kilometers (100 miles) from northern Lea County, New Mexico through western Andrews County, Texas and southward. The Red Bed Ridge is not associated with the Mescalero Escarpment.

The Southeast New Mexico-West Texas area is considered to be structurally stable. Since the Laramide Orogeny (a series of mountain-building events that affected much of western North America in Late

Cretaceous and Early Tertiary time), the Permian Basin has subsided slightly, most likely as a result of the dissolution of the Permian evaporate layers by ground-water infiltration and possibly from oil and gas extraction.

Two types of faulting are associated with the early Permian deformation. Most of the faults are long, high-angle reverse faults with well over 100 meters (328 feet) of vertical displacement that often involved the Precambrian basement rocks. The second type of faulting is found along the western margin of the platform where long strike-slip faults with displacements of tens of kilometers are found. The closest evaluated fault to the site is over 161 kilometers (100 miles) to the northwest associated with the deeper portions of the Permian Basin. No major tectonic event has occured within the Permian Basin since the Laramide Orogeny that ended about 35-million years ago (WCS, 2004c). Recently, a small reverse fault in the Triassic beds with about 3 to 6 meters (10 to 20 feet) of offset was observed on the WCS site approximately one mile to the east of the proposed NEF in Texas. Geologically, the fault has had no observable affect on the overlying Cretaceous Antlers Formation or the Caprock caliche. The fault in the Triassic beds, which is believed to be inactive, predates the Antlers Formation, which is about 135 million years old. (WCS, 2004c; NRC, 2004).

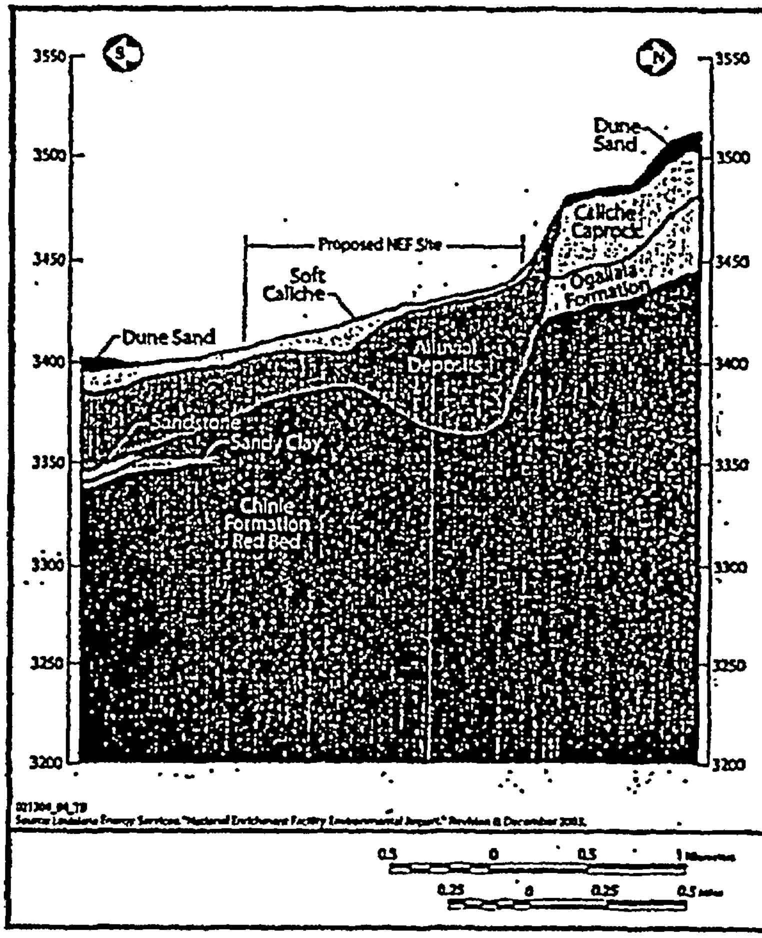

Figure 3-16 Geologic Units in the Proposed NEF Site Area (LES, 2004a)

There has been virtually no tectonic movement within the basin since the Permian period. The faults that uplifted the platform do not appear to have displaced the younger Permian sediments. No Quaternary age faults were identified in New Mexico within 161 kilometers (100 miles) of the site. Quaternary age faults within 240 kilometers (150 miles) of the site include the Guadalupe fault located approximately 191 kilometers (119 miles) west of the site in New Mexico and in Texas; and the West Delaware Mountains fault zone, the East Sierra Diablo fault, and the East Flat Top Mountain fault, located 185 kilometers (115 miles) southwest, and 196 kilometers (122 miles) southwest, and 200 kilometers (124 miles) west-southwest of the site, respectively. The East Baylor Mountain-Carrizo Mountain fault, located 201 kilometers (125 miles) southwest of the NEF site, is considered a possible capable fault but there has been no demonstration of movement within the last 35,000 years (LES, 2004a).

Table 3-8 Geological Units Exposed at, near, or Underlying the Proposed NEF Site

Formation	Geologic Age	Descriptions	Estimates for the Proposed NEF Site Area[a]	
			Depths: meters (feet)	Thickness: meters (feet)
Topsoils	Recent	Silty fine sand with some fine roots—eolian	Range: 0 to 0.6 (0 to 2) Average (Top/Bottom): 0/0.4 (0/1.4)	Range: 0.3 to 0.6 (1 to 2) Average: 0.4 (1.4)
Mescalero Sands/ Blackwater Draw Formation	Quaternary	Dune or dune-related sands	Range (sporadic across site): 0 to 3 (0 to 10) Average: N/A[b]	Range (sporadic across site): 0 to 3 (0 to 10) Average: N/A[c]
Gatuña/ Antlers Formation	Pleistocene/ mid-Pliocene	Pecos River Valley alluvium: Sand and silty sand with interbedded caliche near the surface and a sand and gravel base layer	Range: 0.3 to 17 (1 to 55) Average (Top/Bottom): 0.4/12 (1.4/39)	Range: 6.7 to 16 (22 to 54) Average: 12 (38)
Mescalero Caliche	Quaternary	Soft to hard calcium carbonate deposits	Range: 1.8 to 12 (6 to 40) Average (Top/Bottom): 3.7/8 (12/26)	Range: 0 to 6 (0 to 20) Average (all 14 borings)[d]: 1.4 (5) Average (five borings that encountered caliche): 4.3 (14)
Chinle Formation	Triassic	Claystone and silty clay: red beds	Range: 7 to 340 (23 to 1,115) Average (Top/Bottom): 12/340 (39/1,115)	Range: 323 to 333 (1,060 to 1,092) Average: 328 (1,076)
Santa Rosa Formation	Triassic	Sandy red beds, conglomerates, and shales	Range: 340 to 434 (1,115 to 1,425) Average: N/A[b]	Range: N/A[e] Average: 94 (310)
Dewey Lake Formation	Permian	Muddy sandstone and shale red beds	Range: 434 to 480 (1,425 to 1,575) Average: N/A[b]	Range: N/A[e] Average: 46 (150)

[a] Range of depths is below ground level to shallowest top and deepest bottom of geological unit determined from site boring logs, unless noted. Average depths are below ground level to average top and average bottom of geological unit determined from site boring logs, unless noted. Range of thickness is from the smallest thickness to the largest thickness of geological unit determined from site boring logs, unless noted. Average thickness is the average as determined from site boring logs, unless noted. Bottom of Chinle Formation, top and bottom of Santa Rosa Formation, and top and bottom of Dewey Lake Formation are single values from a deep boring just south of the proposed NEF site.

[b] Average depths are not available.

[c] Average thickness is not available.

[d] Caliche is not present at some locations of the site. Where not present in a particular boring, a thickness of '0' meter (feet) is used in calculating the average.

[e] Range of thickness is not available.

Source: LES, 2004a; Nicholson and Clebsch, 1961.

compounds, chlorinated herbicides, and fluoride. Only barium, chromium, and lead were detected above minimum detectable concentrations in the soil samples. These measured levels were orders of magnitude less than the New Mexico soil-screening concentrations. The soil-screening concentrations are intended to be levels below which there are no health concerns (NMEDHWB, 2004).

3.7 Surface Water

This section addresses the surface-water features at or near the proposed NEF site.

3.7.1 Surface Water Features in the Vicinity of the Proposed NEF Site

There are no surface-water bodies or surface-drainage features on the proposed NEF site (USGS, 1979). The site topography is relatively flat, ranging between about 1,033 and 1,045 meters (3,390 and 3,430 feet) above mean sea level, with an average slope of 0.0064 centimeter/centimeter (2.5 inches/ inches). Wind erosion has created localized depressions; however, these depressions are not large enough to have an impact on surface-water collection. The vegetation on the site is primarily shrubs and native grasses. The surface soils tend to hold moisture in storage rather than allow rapid infiltration to depth. Water held in storage in the soil is subsequently subject to evapotranspiration. The evapotranspiration processes are significant enough to severely limit potential ground-water recharge. Essentially all of the precipitation that occurs at the site is subject to infiltration and subsequent evapotranspiration. Net evaporation/transpiration is estimated as 65 inches/year (Reed and Associates, 1977). Figure 3-19 illustrates local topography in the area of the proposed NEF site.

The site is contained within the Monument Draw watershed; however, there are no freshwater lakes, estuaries, or oceans in the vicinity of the site. Local surface hydrologic features in the vicinity of the site include Monument Draw, Baker Spring, and several ponds on the Wallach Concrete, Inc., Sundance Services, Inc., and WCS properties. Monument Draw is an intermittent stream and the closest surface-water-conveyance feature to the proposed NEF site. Figure 3-20 shows the location of Monument Draw. While Monument Draw is typically dry, the maximum historical flow occurred on June 10, 1972, and measured 36.2 cubic meters per second (1,280 cubic feet per second).

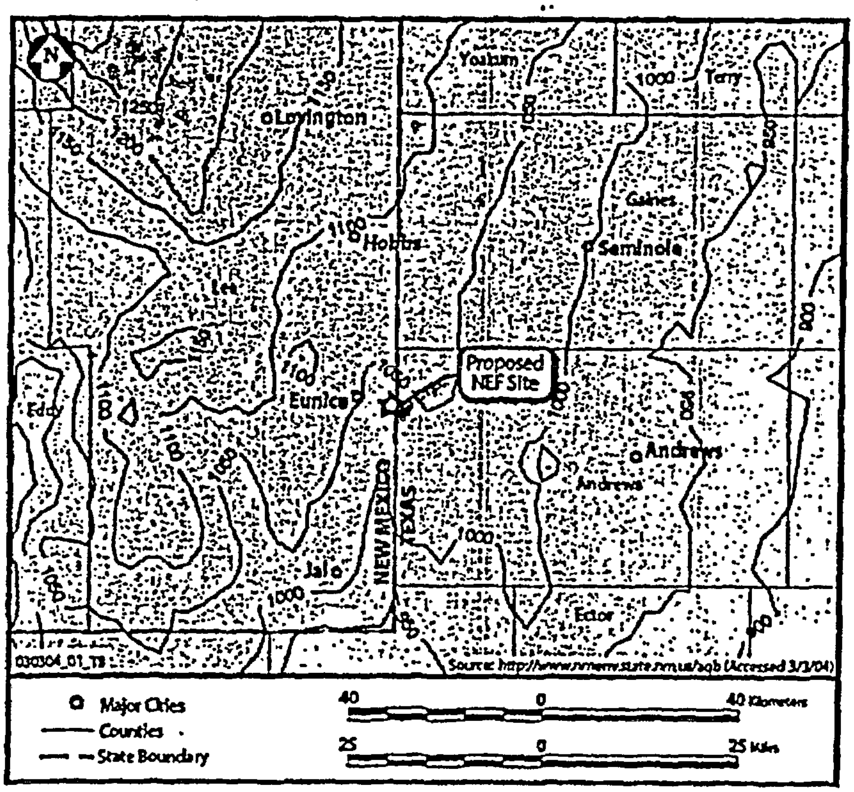

Figure 3-19 General Topography Around the Proposed NEF Site (NMAQB, 2004)

redirect the flow to the east of the Baker Spring area. Aerial photographs suggest that the sand and gravel reserves in this area have been excavated to the top of the red bed. These excavation activities have resulted in the Baker Spring area having a lower elevation than the natural drainage features, and the surface water that formerly flowed through the natural drainage features now ponds in Baker Spring. Because the excavation floor consists of very low permeability red-bed clay, limited vertical migration of the ponded water occurs. Shading from the high wall and trees that have flourished in the excavated area slow the natural evaporation rates, and water stands in the pond for extended periods of time. It is also suspected that during periods of ponding, surface water infiltrates into the sands at the base of the excavated wall and is retained as bank storage. As the surface-water level declines, the bank storage is discharged back to the excavation floor.

On the Wallach Concrete, Inc., property, a shallow surface depression is located at the base of one of the gravel pits. Water is perennially present in the pit due to a seep at the base of the sand and gravel unit at the top of the Chinle Formation clay. Wallach Concrete, Inc., occasionally pumps water out of this depression for use onsite; however, the amount of water in the depression is insufficient to fully supply the quarry operations. While the rate of replenishment has not been quantified, it appears to be relatively slow. This shallow zone of ground water is not observed throughout Wallach's property; therefore, it appears to be representative of a local perched water condition and is not considered to be an aquifer.

3.7.1.1 Wetlands

The proposed NEF site does not contain wetlands, freshwater streams, rivers, or lakes. No commercial and/or sport fisheries are located on the proposed NEF site or in the local area. The closest fishery is situated about 121 kilometers (75 miles) west of the site on the Pecos River near Carlsbad, New Mexico. No important aquatic ecological systems are onsite or in the local area that are vulnerable to change or contain important species habitats such as breeding and feeding areas. Relative regional significance of the aquatic habitat is low.

3.7.1.2 Flooding

The proposed NEF site is not located near any floodplains. The site grade is above the elevation of the 100-year and the 500-year flood elevations. There is no direct outfall to a surface water body on the site.

3.8 Ground-Water Resources

This section describes the ground-water resources and uses in the area that are available for the proposed NEF construction, operations, and decommissioning.

3.8.1 Site and Regional Hydrogeology

Because the climate in southeastern New Mexico is semi-arid, the onsite vegetation consists predominately of shrubs and native grasses. The surface soils are predominately of an alluvial or eolian origin. The near-surface soils are primarily silts and silty sands. These silty types of soils have relatively low permeability compared with sands and tend to hold moisture in storage rather than allow for rapid infiltration to deeper below the ground surface (DeWiest, 1969).

The top approximately 17 meters (56 feet) of soil are comprised of a silty sand, grading to a sand and gravel just above the red-bed-clay unit. The porosity of the surface soils is on the order of 25 to 50 percent, and the saturated hydraulic conductivity of the surface soils is likely to range from 10^{-5} to 10^{-1} centimeters per second (3.9×10^{-6} to 3.9×10^{-2} inches per second).

Field investigation and computer modeling were used to show that no precipitation recharge (i.e., rainfall seeping deeply into the ground) occurs in thick, desert vadose zones with desert vegetation (Walvoord et al., 2002). Precipitation that infiltrates into the subsurface is, instead, efficiently transpired by the native vegetation. Sites with thick vadose zones, such as the proposed NEF site, have a natural thermal gradient in the deeper part of the vadose zone that induces water vapor to diffuse upward toward the vegetation root zone. The water vapor creates a negative pressure potential at the base of the root zone that acts like a sink where water is taken up by the plants and transpired. Measurements in the High Plains of Texas, which indicated an upward hydraulic gradient in the upper 10-15 meters (33-49 feet) of the vadose zone, support this behavior (Walvoord et al., 2002).

Localized shallow ground-water occurrence exists to the east of the proposed NEF site on the WCS property and to the north on the Wallach Concrete, Inc., property. Several abandoned windmills are located on the WCS property. The windmills were used to supply water for stock tanks by tapping small saturated lenses above the Chinle Formation red beds. The amount of ground water in these zones is limited, and the source of recharge is likely to be "buffalo wallows" located near the windmills. The buffalo wallows are substantial surface depressions that collect surface-water runoff. Water collecting in these depressions is inferred to infiltrate below the root zone due to the ponding conditions. A subsurface investigation by WCS in the vicinity of the windmills found that when water was encountered in the sand and gravel above the Chinle Formation red beds, the water level was slow to recover following a sampling event. This slow recovery is attributed to the low permeability of the saturated zones and the high water storage in the overlying soils. The discontinuity of this saturated zone and its low permeability suggest that the ground water is representative of a perched water condition and not an aquifer.

Below this lies approximately 328 meters (1,076 feet) of Chinle Formation (red bed) clay with measured permeabilities in the range of 1×10^{-9} to 1×10^{-8} centimeters per second (3.9×10^{-10} to 3.9×10^{-9} inches per second). Moisture content in the Chinle Formation generally averages from 8 to 12 percent, with a dry density of the clay averaging 2.12 grams per cubic centimeter (132 pounds per cubic foot) (JHA, 1993). The Chinle Formation has a surface slope of approximately 0.02 centimeter per centimeter (0.02 inch per inch) towards the south-southwest under the proposed NEF site. It is thought that the Chinle Formation is exposed in a large excavation about 2 miles southeast of Monument Draw and at Custer Mountain (Nicholson and Clebsch, 1961). The presence of the thick Chinle Formation clay beneath the site isolates the deep and shallow hydrologic systems. Although the presence of fracture zones that can significantly increase vertical water transport through the Chinle Formation has not been precluded, the low measured permeabilities indicate the absence of such zones. Visual inspection of this clay has also shown that it is continuous, solid, and tight with few fracture planes (Rainwater, 1996).

Ground water occurring beneath the surface of the red-bed clay occurs at distinct and distant elevations. The most shallow of these occurs approximately 67 meters (220 feet) beneath the land surface, just below the surface of the red-bed unit. This siltstone or silty sandstone unit has low permeability and does not yield ground water readily. The permeability of this layer was measured in the field at the proposed NEF site as 3.7×10^{-6} centimeters per second (1.5×10^{-6} inches per second). The local gradient was 0.011 centimeter per centimeter (0.011 inch per inch) towards the south-southeast with a porosity estimated as 0.14.

There is also a 30.5-meter-thick (100-foot-thick) water-bearing sandstone layer at about 183 meters (600 feet) below ground surface. However, the first occurrence of a well-defined aquifer capable of producing significant volumes of water is the Santa Rosa Formation. This formation is located about 340 meters (1,115 feet) below ground surface (LES, 2004a). The Santa Rosa is recharged by precipitation on sand dunes in Lea County and Eddy County, New Mexico, and precipitation directly on outcrop areas (Nicholson and Clebsch, 1961). No local investigations of this aquifer were conducted due to the depth of the aquifer and the thickness and low permeability of the overlying Chinle Formation clay, which inhibits potential ground-water migration to the Santa Rosa. There is no indication of a hydraulic connection among the Chinle saturated horizons and the Santa Rosa Formation.

Ground-water velocities were estimated based on the above parameters for both the saturated siltstone unit in the red-bed clay and vertical travel through the clay. The velocity in the saturated siltstone unit within the clay is a slow 0.09 meters per year (0.3 feet per year) towards the south-southeast, reflecting the low permeability of this layer. Using the largest measured Chinle Formation permeability, vertical ground-water velocity through the clay is conservatively estimated as 0.04 meters per year (0.13 feet per year); the resulting travel time from the surface of the clay to its base (the top of the Santa Rosa Formation) would be greater than 8,000 years.

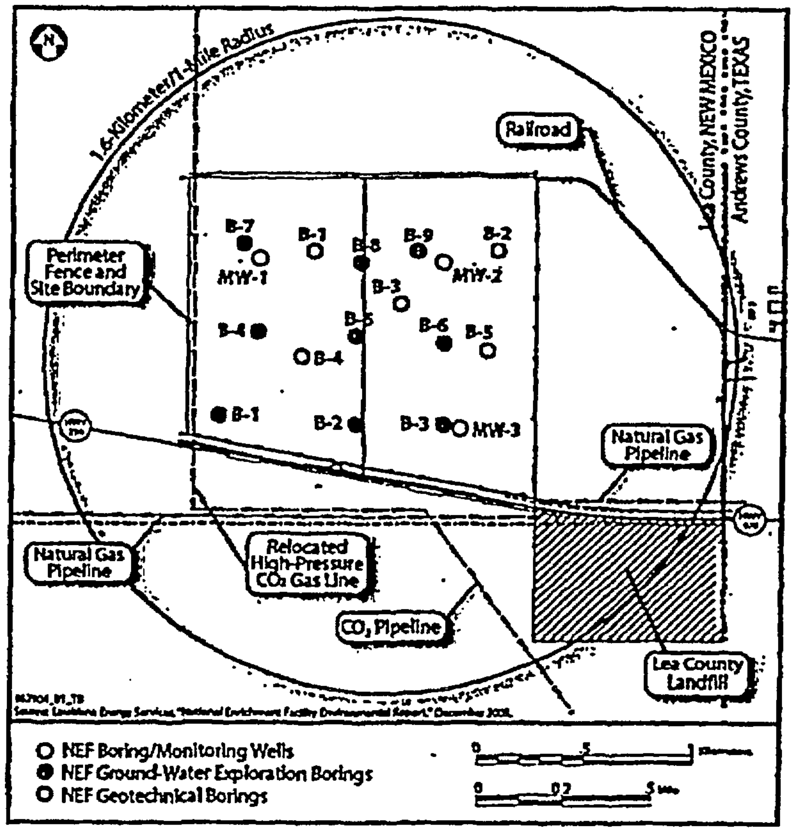

Figure 3-21 Borings on or near the Proposed NEF Site (LES, 2004a)

Figure 3-21 depicts the locations of borings on the proposed NEF site. Onsite borings include nine site ground-water exploration boreholes, the installation of three ground-water monitoring wells, and five geotechnical borings in the soil above the Chinle Formation. The nine borings were also to the top of the Chinle Formation ranging in depth from 10-18 meters (35-60 feet) (Cook-Joyce, 2003). No ground water was observed in any of the finished boreholes nor was ground water observed after allowing the boreholes to stand open for 24 hours. The cuttings taken from the boreholes were dry or contained only residual saturation. The dry nature of the soils from the boreholes indicates no recharge from the ground surface at the site.

The three ground-water monitoring wells were installed in the uppermost water-bearing zone. This 4.5-meter-thick (15-foot-thick) pocket of water is within the Chinle Formation (red beds) at a depth of approximately 67 meters (220 feet) below ground level. Ground water was not observed in any of the

Table 3-10 Ogallala Aquifer Annual Water Quality Averages for Hobbs and Eunice, New Mexico

Parameter	Units	Hobbs	Eunice	EPA Maximum Contaminant Levels[*]
Alkalinity—Total	mg/l	163[a]	186.5	N/A
Color		not detected	0.25	250[g]
Specific Conductivity	µmhos/cm	839.9	716.8	N/A
Hardness	mg/l	293.3	248	N/A
pH	standard	7.5	7.2	6.5 - 8.5
Turbidity	NTU	not detected	1.0	N/A
Total Dissolved Solids	mg/l	410.0	415.7	500[g]
Arsenic	mg/l	0.008	0.008[d]	0.01 (as of 1/3/06)
Calcium	mg/l	80.7	80.5	N/A
Chloride	mg/l	114.0	63.4	250[g]
Fluoride	mg/l	1.1	1.0[e]	4.0
Iron	mg/l	0.05	<0.25[f]	0.3
Magnesium	mg/l	44.4	11.5	4.0
Mercury	mg/l	not detected	<0.0002[d]	N/A
Nitrate	mg/l	3.8	2.6	10
Potassium	mg/l	3.4[a]	4.8	
Sodium	mg/l	38.0	42.6	N/A
Sulfate	mg/l	113.1[b]	67.2	
Gross Alpha	pCi/l	3.1 ± 0.9 to 16.6 ± 2.9[c]	2.8 ± 1 to 6.6 ± 1[c]	15

*EPA, 2004c.
N/A - not applicable; mg/l - milligrams per liter; NTU - Nephelometric Turbidity Units; pCi/l - picocuries per liter; µmhos/cm - micromhos per centimeter.
[a] Sampled at entry point, August 23, 2004.
[b] Sampled at entry point, February 1996.
[c] Range in concentration, low and high; sampled from 1994 through 1997.
[d] Sampled at entry point, March 1995.
[e] Sampled at entry point, March 1996.
[f] Samples taken from 1975 to 1979.
[g] Results are either annual averages for all wells in a system, at the entry point of a system, or averages of all wells in a system for a particular sampling date.
Source: LCWUA, 2000.

cubic yards) of soil to be cut and used as fill. The resulting terrain change over 73 hectares (180 acres) from gently sloping to flat would result in SMALL impacts; numerous such areas of flat terrain exist in the region due to natural erosion processes. Only onsite soils would be used in the site grading, and no import of borrow materials would be required.

Construction activities could cause some short-term impacts such as increases in soil erosion at the proposed NEF site. Soil erosion could result from wind action and precipitation, although there is limited rainfall in the vicinity of the proposed NEF. Several mitigative measures would be taken to minimize soil erosion and control fugitive construction dust.

Preliminary site geotechnical investigations indicate that facility footings could be supported by the firm and dense sandy subsurface soils (Mactec, 2003). Although not presently foreseen, if final design studies indicate the necessity to extend footings through the sand into the Chinle Formation, then more soils would be disturbed and the clay layer could be penetrated.

These same geotechnical investigations also considered the suitability of the site subsurface soils to support a septic leach field. Two test locations were used to establish a percolation rate of 3.3 minutes per centimeter (8.4 minutes per inch). The final design would require additional percolation testing at the design leach field locations and elevations to comply with applicable State and local regulations.

Because site preparations and construction result in only short-term effects to the geology and soils, the impacts would be SMALL.

4.2.5.2 Operations

During operations of the proposed NEF, the exposed surface soils could experience the same types of impacts as the undisturbed soils in the surrounding area. The primary impact to these soils would be wind and water erosion. However, this environmental impact would be SMALL as the rate of wind and water erosion of the exposed surface soils surrounding the proposed NEF site would likely be small.

Releases to the atmosphere during normal operation of the proposed NEF could contribute to a small increase in the amount of uranium and fluorides in surrounding soils as they are transported downwind. Section 4.2.4 notes that all estimated atmospheric releases of pollutants would be below the amounts requiring permits, and the impacts to air quality from operations would be SMALL. Section 4.2.12 presents the potential human health impacts from this deposition to the surrounding soils. Based on the discussion above, the proposed NEF would be expected to result in SMALL impacts on site geologic and soil resources.

4.2.5.3 Mitigation Measures

Application of construction BMPs and a fugitive dust control plan would lessen the short-term impacts from soil erosion by wind or rain during construction. LES would comply with National Pollutant Discharge Elimination System (NPDES) general permits. To mitigate the impacts of stormwater runoff on the soils, earthen berms, dikes, and sediment fences would be used as needed during construction, and permanent structures such as culverts and ditches would be stabilized and lined with rock aggregate/riprap to reduce water-flow velocity and prohibit scouring. Stormwater detention basins would be used during construction, and retention/detention basins would be used during operation. Implementation of the Spill Prevention Control and Countermeasures Plan would reduce impacts to soil by mitigating the potential impacts from chemical spills that could occur around vehicle maintenance and fueling locations, storage tanks, and painting operations during construction and operation. Waste management procedures would be used to minimize the impacts to the surrounding soils from solid waste and hazardous materials that would be generated during construction and operation.

4.2.6 Water Resources Impacts

This section discusses the assessment of potential environmental impacts to surface water and ground water during construction and operation of the proposed NEF. The discussion includes the potential impact to natural drainage on and around the proposed NEF site and the effect of the proposed NEF on the regional water supply.

4.2.6.1 Site Preparation and Construction

Because construction activities would disturb over 0.4 hectares (1 acre), an NPDES Construction Stormwater General Permit from EPA Region 6 and an oversight review by the New Mexico Environment Department/Water Quality Bureau would be required. Stormwater runoff and wastewater discharges would be collected in retention/detention basins. The stormwater detention basin would allow infiltration into the ground as well as evaporation. In addition, the stormwater detention basin would have an outlet structure to allow drainage. The retention basins, once constructed, would allow disposition of collected stormwater by evaporation only. No flood-control measures are proposed because the site grade is above the 500-year flood elevation. Sanitary waste generated at the site would be handled by portable systems until such time that the site septic systems are available for use. Compliance with the permit would minimize the impacts to surface features and ground water.

The NRC staff estimates that approximately 7,570 cubic meters (2 million gallons) of water would be used annually during the construction phase of the proposed NEF based on the design estimates for the formerly proposed Claiborne Enrichment Facility (NRC, 1994). Water would be used for concrete formation, dust control, compaction of the fill, and revegetation. These usage rates are well within the excess capacities of Eunice or Hobbs water supply systems and would not affect local uses (Abousleman, 2004b; Woomer, 2004). Current capacities for the Eunice and Hobbs municipal water supply systems are about 6 million cubic meters (1.6 billion gallons) per year and 27.6 million cubic meters (7.3 billion gallons) per year, respectively. As a result, small short-term impacts to the municipal water supply system would occur. In addition, a Spill Prevention Control and Countermeasures Plan would be implemented to address potential spills during construction activities.

Because there are no existing easily accessible water resources onsite and BMPs would be used to minimize the impacts of construction stormwater and wastewater within the site boundaries, the impacts to water resources during construction would be expected to be SMALL.

4.2.6.2 Operations

The proposed NEF site liquid effluent discharge rates would be relatively small. The proposed NEF wastewater flow rate from all sources would be expected to be about 28,900 cubic meters (7.6 million gallons) annually (LES, 2004a). This includes approximately 2,540 cubic meters (670,000 gallons) annually of wastewater from the liquid effluent treatment system, while domestic sewage and cooling tower blowdown waters constitute the remaining amount.

The liquid effluent treatment system and shower/hand wash/laundry effluents would be discharged onsite into a double-lined Treated Effluent Evaporative Basin, whereas the cooling tower blowdown water and

Uranium Byproduct Cylinder (UBC) Storage Pad stormwater runoff would be discharged onsite to a single-lined retention basin. Runoff water from developed areas of the site other than the UBC Storage Pad would be collected in the unlined Site Stormwater Detention Basin. Domestic sewage would be discharged to onsite septic tanks and subsequently to an associated leach field system. No process waters would be discharged from the site. There is the potential for intermittent discharges of stormwater offsite. Figure 4-2 shows the onsite location of the water basins and septic tanks.

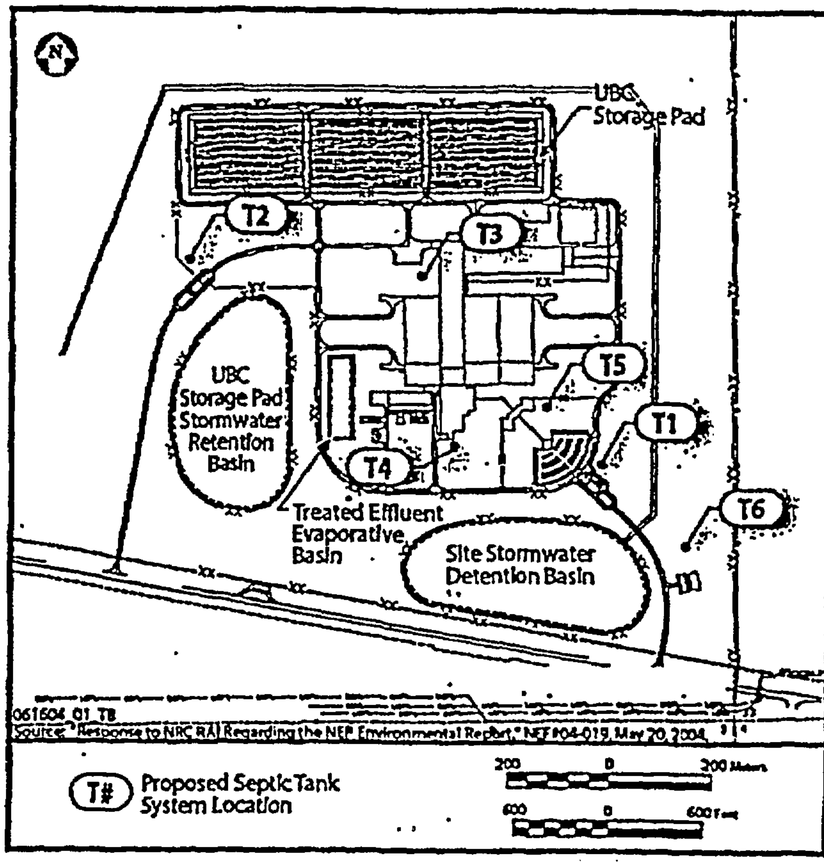

Figure 4-2 Basins and Septic Tank System Locations (LES, 2004a)

Approximately 174,000 cubic meters (46 million gallons) of stormwater would be expected to be released annually to the onsite retention/detention basins. In addition, about 617,000 cubic meters (163 million gallons) of annual runoff from the undeveloped site areas could be expected. Site drainage would be to the southwest with runoff not able to reach any natural water body before it evaporates.

Treated Effluent Evaporative Basin

Total annual effluent discharge to the Treated Effluent Evaporative Basin would be 2,540 cubic meters (670,000 gallons). The effluent would be disposed of by evaporation of all of the water and impoundment of the remaining dry solids. A water balance of the basin, including consideration of effluent and precipitation inflows and evaporation outflows, indicates that the basin would be dry for 1 to 8 months of the year depending on annual precipitation rates (LES, 2004f). The volume of the basin is expected to be sufficient to contain all inflows for the life of the proposed facility. In the unlikely event of consecutive years of very high precipitation, it could become necessary for the site operators to develop strategies to prevent basin overflows. Because such an unlikely event could occur gradually over a long period of time (years), there would be sufficient time to take necessary actions.

During the proposed NEF operation, only liquids meeting site administrative limits based on prescribed standards would be discharged into the Treated Effluent Evaporative Basin. It is expected that operation of the waste treatment system would result in 14.4×10^{6} becquerels (390 microcuries) per year of uranium discharged to the Treated Effluent Evaporative Basin. These levels are small and would not impact area water resources. Effluents unsuitable for release to the basin could be recycled through the liquid effluent treatment system or processed into a solid and disposed of offsite in a suitable manner. The Treated Effluent Evaporative Basin would be expected to have only a SMALL impact on water resources. Section 4.2.12 describes potential impacts from atmospheric resuspension of the uranium when the basin is dry.

UBC Storage Pad Stormwater Retention Basin

Total annual effluent discharge from blowdown to the UBC Storage Pad Stormwater Retention Basin would be 19,300 cubic meters (5.1 million gallons) (LES, 2004a). The effluent would be disposed of by evaporation of all of the water and impoundment of the remaining dry solids. A water balance of this basin, including consideration of effluent and precipitation inflows and evaporation outflows, indicates that the basin would be dry for 11 to 12 months of the year, depending on annual precipitation rates (LES, 2004f). The basin would have the capacity to hold all inflows for the life of the proposed NEF. UBCs (i.e., depleted uranium hexafluoride [DUF_6]-filled Type 48Y cylinders) would be surveyed for external contamination before being placed on the UBC Storage Pad and would be monitored while stored on the pad. Any external contamination would be removed prior to cylinder placement on the pad. Therefore, rainfall runoff to this basin would be clean and would not result in an exposure pathway. Because all of the water discharged to the lined UBC Storage Pad Stormwater Retention Basin would evaporate, the basin would have a SMALL impact on water resources.

Site Stormwater Detention Basin

The Site Stormwater Detention Basin would be unlined, and discharges would be through infiltration and evaporation. A water balance of this basin shows that it would be dry except during rainfall events (LES, 2004f). Most of the water discharged into the basin would seep into the ground before evaporating at an average rate of 17 centimeters (6.7 inches) per month.

Water seeping into the ground from the Site Stormwater Detention Basin could be expected to form a perched layer on top of the highly impermeable Chinle Formation clay similar to the "buffalo wallows" described in Chapter 3 of this Draft EIS. The water would be expected to have limited downgradient transport due to the storage capacity of the soils and the upward flux to the root zone. A conservative estimate of the impact from this basin assumes that the local ground-water velocity of the plume coming from the Site Stormwater Detention Basin could be 252 meters (0.16 mile) per years. The cross-section (perpendicular to the flow direction) of this plume would be 2,850 square meters (30,700 square feet). The depth of the plume would be about 2.85 meters (9.3 feet) for a nominal plume width of 1,000 meters (3,280 feet).

The water quality of the basin discharge would be typical of runoff from building roofs and paved areas from any industrial facility. Except for small amounts of oil and grease expected from normal onsite traffic, which would readily adsorb into the soil, the plume would not be expected to contain contaminants. There are no ground-water users within 3.2 kilometers (2 miles) downgradient of the proposed NEF site, and there are no downgradient users of ground water from the sandy soil above the Chinle Formation. Portions of the plume not evapotranspired and traveling downgradient could result in a minor seep at Custer Mountain or in the excavation 3.2 kilometers (2 miles) southeast of Monument Draw where the Chinle Formation is exposed (Nicholson and Clebsch, 1961). Accordingly, the Site Stormwater Detention Basin seepage would have a SMALL impact on water resources of the area.

Septic Tanks and Leach Fields

Water seeping into the ground from the septic systems could be expected to form a perched layer on top of the highly impermeable Chinle Formation similar to the "buffalo wallows" described in Chapter 3 of this Draft EIS. The water can be expected to have limited downgradient transport because of the storage capacity of the soils and the upward flux to the root zone. A conservative estimate of the impact from the septic systems assumes all of the infiltrating water is transported downgradient. The local ground-water velocity of the plumes coming from the septic system would then be about 252 meters (0.16 mile) per year. The total cross-section (perpendicular to the flow direction) of the septic system plumes would be 116 square meters (1,250 square feet). The depth of the plumes was calculated to be about 1.16 meters (3.8 feet) for a nominal total plume width of 100 meters (328 feet).

The proposed septic systems are included in the ground-water discharge permit application filed with the New Mexico Environment Department/Ground-Water Quality Bureau (LES, 2004a). Sanitary wastewater discharged to the septic system would meet required levels for all contaminants stipulated in the permit (LES, 2004a). There are no ground-water users within 3.2 kilometers (2 miles) downgradient (toward the southwest) of the proposed NEF site, and there are no downgradient users of ground water from the sandy soil above the Chinle Formation. Contaminants would leach out of the septic system discharge as water is transported vertically. Portions of the plume not evapotranspired traveling downgradient could result in a minor seep at Custer Mountain or in the excavation 3.2 kilometers (2 miles) southeast of Monument Draw where the Chinle Formation is exposed (Nicholson and Clebsch, 1961). The septic systems would also be expected to have a SMALL impact on water resources.

4.2.6.3 Water Uses of Operation

The proposed NEF water supply would be obtained from the municipal supply systems of the cities of Eunice and Hobbs, New Mexico. Water rights, if any, required for this arrangement would be negotiated with the municipalities. The proposed NEF would consume water to meet potable, sanitary, and process consumption needs. None of this water would be returned to its original source. The waters originate from the Ogallala Aquifer north of Hobbs, New Mexico (Woomer, 2004). New potable water supply lines would be approximately 8 kilometers (5 miles) in length from Eunice, New Mexico, and approximately 32 kilometers (20 miles) in length from Hobbs, New Mexico, along county right-of-way easements along New Mexico Highways 18 and 234. The impacts of such activity would be short-term and SMALL (e.g., access roads to the highway could be temporarily diverted while the easement is excavated and the pipelines are installed) (Woomer, 2004).

Eunice and Hobbs, New Mexico, have excess water capacities of 66 and 69 percent, respectively. Average and peak water requirements for the proposed NEF operation would be expected to be approximately 240 cubic meters (63,423 gallons) per day and 2,040 cubic meters (539,000 gallons) per day, respectively. These usage rates are well within the excess capacities of both water systems and would not affect local uses (Abousleman, 2004b; Woomer, 2004). The annual proposed NEF water use would be less than the daily capacity of these systems. Figure 4-3 illustrates the relationships between the proposed NEF projected water uses and Eunice and Hobbs water demand and system capacities. The average and peak water use requirements would be approximately 0.26 and 2.2 percent, respectively, of the combined potable water capacity for Eunice and Hobbs of 92,050 cubic meters (24.3 million gallons) per day.

The proposed NEF operation would be expected to use on an average approximately 87,600 cubic meters (23.1 million gallons) of water annually. For the life of the facility, the proposed NEF could use up to

2.63 million cubic meters (695 million gallons) of the Ogallala waters, encompassing both construction and operations use. This constitutes a small portion, 0.004 percent, of the 60 billion cubic meters (49 million acre-feet or 16 trillion gallons) of Ogallala reserves in the State of New Mexico territory (HPWD, 2004) and, therefore, the impacts to water resources would be SMALL.

4.2.6.4 Mitigation Measures

Construction BMPs would limit the impacts from the installation of potable water supply lines and would also limit the impact of construction stormwater and wastewater to within the site boundaries. All construction activities would comply with NPDES Construction Stormwater General Permits and a ground-water discharge permit.

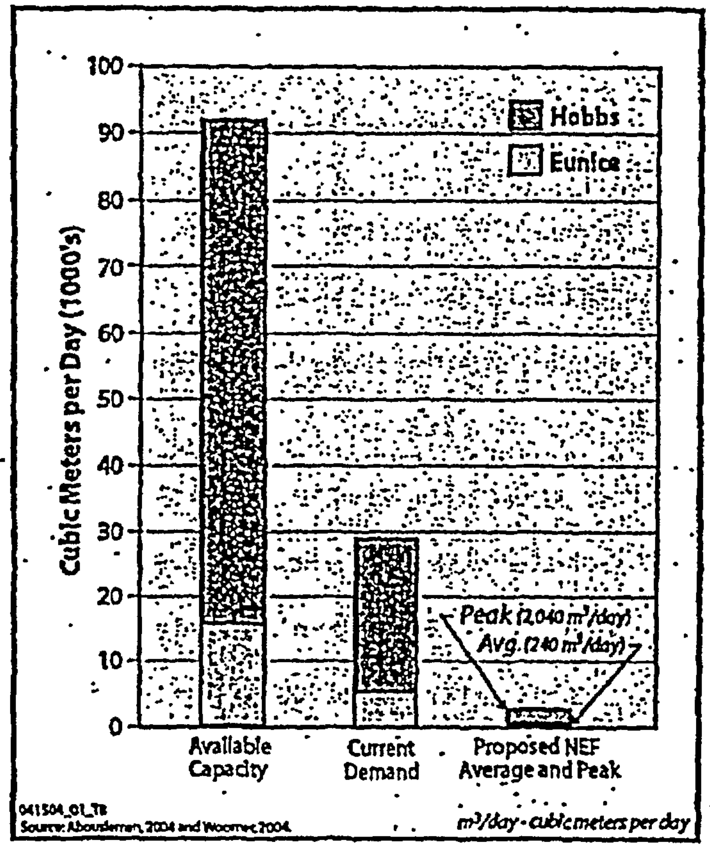

Figure 4-3 Eunice and Hobbs Water Capacities in Relation to the Proposed NEF Requirements (LES, 2004a; Abousleman, 2004; Woomer, 2004)

The Liquid Effluent Collection and Treatment System would be used throughout operations to control liquid waste within the facility including the collection, analysis, and processing of liquid wastes for disposal. Liquid effluent concentration releases to the Treated Effluent Evaporative Basin and the UBC Storage Pad Stormwater Retention Basin would be below the uncontrolled release limits set forth in 10 CFR Part 20. A Spill Prevention Control and Countermeasures Plan would minimize the impacts for infiltration of hazardous chemicals into any formation of perched water that could occur during operation.

A Stormwater Pollution Prevention Plan would be implemented at the proposed NEF site. Staging areas would be established to manage waste materials, and a waste management and recycling program would be implemented to segregate and minimize industrial and hazardous waste generation. Low-water-consumption landscaping techniques; low-flow toilets, sinks, and showers; and efficient water-using equipment would be used.

Because the Ogallala Aquifer is a nonrenewable water source and future demand for water in the region would exceed the recharge rate, the present local water supplies could be affected. The Lea County Water Plan includes mitigation actions to be taken to increase water supplies in the future and actions to deal with drought conditions should supplies be insufficient. LES would comply with any drought-related conditions that would be imposed through the Lea County Water Plan or through other State or local actions. The drought management plan has four action levels: Advisory, Alert, Warning, and Emergency. Recommended actions for these levels include voluntary reductions, mandatory nonessential water-use restrictions (e.g., restrictions on car washing, landscape watering, ornamental water use), and increased fugitive dust, increased potential for erosion and stormwater pollution, and increased construction vehicle traffic and emissions. The construction activities would be associated with increased soil erosion.

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Water consumption during the site preparation and construction phase would be less than that required during operations. The water originates from wells positioned in the most productive portion of the Ogallala Aquifer in New Mexico. The proposed NEF site water supply would be obtained from the cities of Eunice and Hobbs, New Mexico. The impact of water use during this phase would be SMALL if compared to the combined water capacities of the two municipalities.

5 MITIGATION MEASURES

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). This chapter summarizes the mitigation measures that were proposed by Louisiana Energy Services (LES) for the proposed National Enrichment Facility (NEF). The proposed mitigation measures provided in this chapter do not include environmental monitoring activities. Environmental monitoring activities are described in Chapter 6 of this Draft Environmental Impact Statement (Draft EIS).

The U.S. Nuclear Regulatory Commission (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 because impacts, as presented in Chapter 4, are considered small to moderate.

5.1 Mitigation Measures Proposed by LES

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 (LES, 2004). Tables 5-1 and 5-2 list the mitigation measures impact areas. No mitigation measures are identified for the impact areas of socioeconomics and environmental justice for construction and operations, or for air quality for operations.

Table 5-1 Summary of Potential Mitigation Measures Proposed by LES for Construction

Impact Area	Activity	Proposed Mitigation Measures
Land Use	Land disturbance	Use best management practices (BMPs) to develop the smallest area of the site as practicable and use water spray on roads to suppress dust. Limit site slopes to a horizontal-vertical ratio of three to one or less. Use sedimentation detention basins. Protect undisturbed areas with silt fencing and straw bales as appropriate. Use site stabilization practices such as placing crushed stone on top of disturbed soil in areas of concentrated runoff.
Geology and Soil	Soil disturbance	Use construction BMPs and comply with a fugitive dust control plan and a Spill Prevention, Control, and Countermeasures Plan. 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.

	Impact Area	Activity	Proposed Mitigation Measures
1	Water Resources	Runoff	Use BMPs for dust control, fill operations, erosion control measures, maintenance of equipment, stormwater runoff, and erosion controls.
			Use staging areas for materials and wastes and retention/detention basins to control runoff.
			Implement a Spill Prevention, Control, and Countermeasures Plan and a site Stormwater Pollution Prevention Plan.
		Water use	Use low-water-consumptive landscaping techniques and install low-flow toilets, sinks, and showers and other efficient water-using equipment.
			Berm all aboveground diesel storage tanks.
			Implement a waste management and recycling program to segregate and minimize industrial and hazardous waste.
2 3	Ecological Resources	Disturbance of habitats defined as rare or unique or that support threatened or endangered species	Use construction BMPs to minimize the construction footprint and to control erosion, and manage stormwater.
			Use native, low-water-consumptive vegetation in restored and landscaped areas.
			Use animal-friendly fencing and netting over basins to prevent use by migratory birds.
			Minimize the number of open trenches at any given time and keep trenching and backfilling crews close together.
			Trench during the cooler months (when possible).
			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.
4 5 6	Historical and Cultural Resources	Disturbance of prehistoric archaeological sites and sites eligible for listing in the National Register of Historic Places	Develop a treatment plan 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 the National Register of Historic Places.
7	Air Quality	Fugitive dust and construction equipment emissions	Use BMPs for fugitive dust and for maintenance of vehicles and equipment to minimize air emissions.

Impact Area	Activity	Proposed Mitigation Measures
Public and Occupational Health	Nonradiological effects from construction activities	Use BMPs and management programs associated with promoting safe construction practices.
Transportation	Traffic volume	Use construction BMPs to suppress dust by watering down roads as necessary and maintain temporary roads. Convert the temporary access roads into permanent access roads upon completion of the construction. 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. Use shift work during construction, operation, and decommissioning to reduce traffic on roadways. Encourage car pooling to reduce the number of workers' cars on the road.
Waste Management	Generation of industrial and hazardous wastes (air and liquid emissions in "Air Quality" and "Water Resources," above)	Use waste-staging areas to segregate and store wastes. Use BMPs that minimize the generation of solid waste. Perform a waste assessment and develop and use a waste recycling plan for nonhazardous materials. Conduct employee training on the recycling program.
Visual and Scenic Resources	Potential visual intrusions in the existing landscape character	Use accepted natural, low-water-consumption landscaping techniques. 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 construction vehicles. Promote use of hearing protection gears for workers.

Table 5-2 Summary of Potential Mitigation Measures Proposed by LES for Operations

Impact Area	Activity	Proposed Mitigation Measures
Land Use	Land disturbance	Stabilize bare areas with natural, low-water-maintenance landscaping and pavement.
Geology and Soil	Soil disturbance	Implement a Spill Prevention, Control, and Countermeasures Plan. Use permanent retention/detention basins to collect stormwater and process water. Stabilize bare areas with natural, low-water-maintenance landscaping and pavement.
Water Resources	Runoff	Use staging areas for materials and wastes and retention/detention basins to control runoff.
	Water use	Implement a Spill Prevention, Control, and Countermeasures Plan and a site Stormwater Pollution Prevention Plan during construction. Use low-water-consumptive landscaping techniques.
Ecological Resources	Disturbance of habitats defined as rare or unique or that support threatened or endangered species	Manage unused open areas (i.e., leave undisturbed), including areas of native grasses and shrubs for the benefit of wildlife. Use native, low-water-consumptive vegetation in restored and landscaped areas. Use animal-friendly fencing and netting over basins to prevent use by migratory birds.
Historical and Cultural Resources	Disturbance of prehistoric archaeological sites and sites eligible for listing in the National Register of Historic Places	Develop a treatment plan 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 the National Register of Historic Places.
Public and Occupational Health	Radiological and nonradiological effects from normal operations and off-normal operations	For nonradiological sources, use BMPs and a safety management program to promote worker safety. Move uranium hexafluoride (UF_6) cylinders when UF_6 is in solid form, which minimizes the risk of inadvertent release due to mishandling. Separate uranium compounds and various other heavy metals in the waste material generated by decontamination of equipment and systems.

Impact Area	Activity	Proposed Mitigation Measures
Public and Occupational Health *(continued)*		Use liquid- and solid-waste-handling systems and techniques to control wastes and effluent concentrations. Monitor and sample effluent to ensure compliance with regulatory discharge limits. Conduct routine plant radiation and radiological surveys to characterize and minimize potential radiological dose/exposure. Monitor all radiation workers via the use of dosimeters and area air sampling to ensure that radiological doses remain within regulatory limits and are as low as reasonably achievable (ALARA). Use radiation monitors in the gaseous effluent stacks to detect and alarm, and initiate the automatic safe shutdown of process equipment in the event contaminants are detected in the system exhaust. Systems will either automatically shut down, switch trains, or rely on operator actions to mitigate the potential release.
Waste Management	Generation of industrial, hazardous, radiological, and mixed wastes (air and liquid emissions are addressed under "Water Resources," above).	Use a storage array that permits easy visual inspection of all cylinders, with uranium byproduct cylinders (UBCs) stacked no more than two high. Segregate the storage pad areas from the rest of the enrichment facility by barriers (e.g., vehicle guardrails). 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). Take steps to ensure that UBCs do not have the defective valves (identified in NRC Bulletin 2003-03, "Potentially Defective 1-Inch Valves for Uranium Hexafluoride Cylinders") (NRC, 2003) installed. Allow only designated vehicles with less than 280 liters (74 gallons) of fuel in the UBC Storage Pad area. Allow only trained and qualified personnel to operate vehicles on the UBC Storage Pad area. Inspect cylinders of UF_6 prior to placing a filled cylinder on the UBC Storage Pad and annually inspect UBCs for damage or surface coating defects. Inspections would ensure:

Impact Area	Activity	Proposed Mitigation Measures
Waste Management *(continued)*		• Lifting points are free from distortion and cracking. • Cylinder skirts and stiffener rings are free from distortion and cracking. • Cylinder surfaces are free from bulges, dents, gouges, cracks, or significant corrosion. • Cylinder valves are fitted with the correct protector and cap. • Cylinder valves are straight and not distorted, two to six threads are visible, and the square head of the valve stem is undamaged. • Cylinder plugs are undamaged and not leaking. 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. Monitor all site detention/retention basins. Use waste-staging areas to segregate and store wastes and volume reduce/minimize wastes through a waste management program and associated procedures. Use operating practices that minimize the generation of solid wastes, liquid wastes, liquid effluents, and gaseous effluents and that minimize energy consumption. Perform a waste assessment and develop and use a waste recycling plan for nonhazardous materials. Conduct employee training on the waste recycling program. Implement ALARA concepts and waste minimization and reuse techniques to minimize radioactive waste generation. Implement a Spill Prevention, Control, and Countermeasures Plan.
Visual and Scenic Resources	Potential visual intrusions in the existing landscape character	Use accepted natural, low-water-consumption landscaping techniques. 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 gears for workers.

Physiochemical monitoring would be conducted via sampling of stormwater, soil, sediment, vegetation, and ground water to confirm that trace, incidental chemical discharges would be below regulatory limits. Table 6-8 defines physiochemical sampling by type, location, frequency, and collections.

Table 6-8 Physiochemical Sampling

Sample Type	Sample Location	Frequency	Sampling and Collections[b]
Stormwater	Site Stormwater Detention Basin UBC Storage Pad Stormwater Retention Basin	Quarterly	Analytes as determined by baseline program
Vegetation	4 minimum[a]	Quarterly (growing seasons)	Fluoride uptake
Soil/Sediment	4 minimum[a]	Quarterly	Metals, organics, pesticides, and fluoride uptake
Ground Water	All selected ground-water wells	Semiannually	Metals, organics, and pesticides

[a] Location to be established by Health, Safety and Environmental organization staff.
[b] Analyses would meet EPA Lower Limits of Detection, as applicable, and would be based on the baseline surveys and the type of matrix (sample type).
Source: LES, 2004a.

Because no naturally occurring surface waters would be on the site, a Surface Water Monitoring Program would not be implemented; however, soil sampling would include outfall areas such as the outfall at the Site Stormwater Detention Basin. In the event of any accidental release from the proposed NEF, these sampling protocols would be initiated immediately and on a continuing basis to document the extent and impact of the release until conditions have been abated and mitigated (LES, 2004a).

6.2.2 Stormwater Monitoring

A Stormwater Monitoring Program would be initiated during construction of the proposed NEF. Data collected from the program would be used to evaluate the effectiveness of measures taken to prevent the contamination of stormwater and to retain sediments within property boundaries. A temporary detention basin would be used as a sediment control basin during construction as part of the overall sedimentation erosion control plan.

The water quality of the discharge would be typical runoff from building roofs and paved areas. Except for small amounts of oil and grease typically found in runoff from paved roadways and parking areas, the discharge would not be expected to contain contaminants.

Stormwater monitoring would continue with the same monitoring frequency upon initiation of the proposed NEF operation. During plant operation, samples would be collected from the UBC Storage Pad Stormwater Retention Basin and the Site Stormwater Detention Basin to demonstrate that runoff would not contain any contaminants.

Table 6-9 shows a list of parameters that would be monitored and monitoring frequencies. This monitoring program would be refined to reflect applicable requirements as determined during the NPDES process. Additionally, the Site Stormwater Detention Basin would adhere to the requirements of the Groundwater Discharge Permit/Plan under *New Mexico Administrative Code* 20.6.2.3104 (LES, 2004a).

Table 6-9 Stormwater Monitoring Program

Monitored Parameter	Monitoring Frequency	Sample Type	Lower Limit of Detection
Oil and Grease	Quarterly, if standing water exists.	Grab	0.5 ppm
Total Suspended Solids	Quarterly, if standing water exists.	Grab	0.5 ppm
Five-Day Biological Oxygen Demand	Quarterly, if standing water exists.	Grab	2 ppm
Chemical Oxygen Demand	Quarterly, if standing water exists.	Grab	1 ppm
Total Phosphorus	Quarterly, if standing water exists.	Grab	0.1 ppm
Total Kjeldahl Nitrogen	Quarterly, if standing water exists.	Grab	0.1 ppm
pH	Quarterly, if standing water exists.	Grab	0.01 unit
Nitrate Plus Nitrite Nitrogen	Quarterly, if standing water exists.	Grab	0.2 ppm
Metals	Quarterly, if standing water exists.	Grab	Varies by metal

ppm - parts per million; ppb - parts per billion.
Source: LES, 2004a.

Normal discharge from the Site Stormwater Detention Basin would be through evaporation and infiltration into the ground. During high precipitation runoff events, some discharge could occur from the outfall next to New Mexico Highway 234. If any discharge from this outfall would occur, the volume of water would be expected to be equal to or less than the preconstruction runoff rates from the site area. Several culverts presently exist under New Mexico Highway 234 that transmit runoff to the south side of the highway. Since flow from this outfall would be intermittent, no monitoring would be conducted because the detention basin would be monitored (LES, 2004a).

The diversion ditch would intercept surface runoff from the area upstream of the proposed NEF site around the east and west sides of the proposed NEF structures during extreme precipitation events. There would be no retention or attenuation of flow within the diversion ditch. The east side would divert surface runoff into the Site Stormwater Detention Basin, which would be monitored. The west side would divert surface runoff around the site where it would continue on as overland flow. There would be no need to monitor this overland flow because this water would not flow through the proposed NEF site (LES, 2004a).

6.2.3 Environmental Monitoring

Chemistry data collected as part of the effluent and stormwater monitoring programs would be used for environmental monitoring. The chemistry data would be used to comply with NPDES and air permit obligations. Final constituent analysis requirements, which include the hazardous constituent to be monitored, minimum detectable concentrations, emission limits, and analytical requirements, would be in accordance with the permits that would be obtained prior to construction and operation (LES, 2004a).

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Chemical Oxygen Demand	Quarterly, if standing water exists.	Grab	1 ppm
Total Phosphorus	Quarterly, if standing water exists.	Grab	0.1 ppm
Total Kjeldahl Nitrogen	Quarterly, if standing water exists.	Grab	0.1 ppm
pH	Quarterly, if standing water exists.	Grab	0.01 unit
Nitrate Plus Nitrite Nitrogen	Quarterly, if standing water exists.	Grab	0.2 ppm
Metals	Quarterly, if standing water exists.	Grab	Varies by metal

ppm - parts per million; ppb - parts per billion.
Source: LES, 2004a.

Normal discharge from the Site Stormwater Detention Basin would be through evaporation and infiltration into the ground. During high precipitation runoff events, some discharge could occur from the outfall next to New Mexico Highway 234. If any discharge from this outfall would occur, the volume of water would be expected to be equal to or less than the preconstruction runoff rates from the site area. Several culverts presently exist under New Mexico Highway 234 that transmit runoff to the south side of the highway. Since flow from this outfall would be intermittent, no monitoring would be conducted because the detention basin would be monitored (LES, 2004a).

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