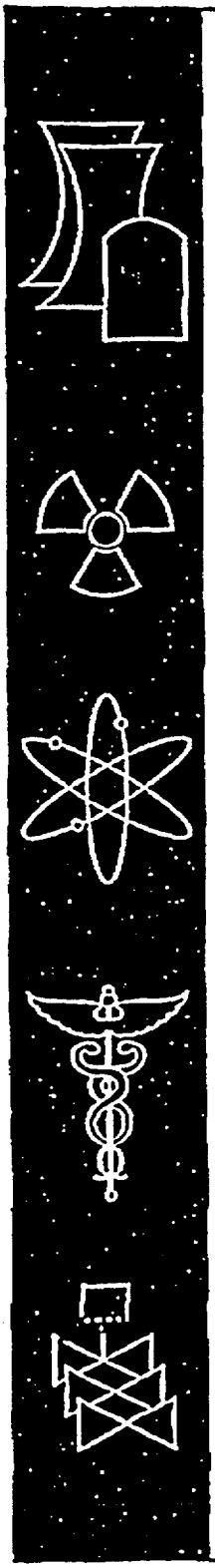
A. TOBLIN STAFF EXHIBIT 1

NIRS/PC EC-2

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

ground-water monitoring wells upon completion of the wells. One well (MW-2) did produce water after one month of monitoring, and the ground water in that well continued to recharge throughout the monitoring period.

3.8.2 Ground-Water Use

No surface water would be used from the proposed NEF site nor ground water from beneath the site. Instead, the proposed site would receive all of its water supply from the Eunice and/or Hobbs municipal water supply systems. No water wells are located within 1.6 kilometers (1 mile) of the site boundary.

The local municipalities obtain water from ground-water sources in the Ogallala Aquifer near the city of Hobbs, approximately 32 kilometers (20 miles) north of the site. The drinking water wells are positioned in the most productive portion of the Ogallala Formation in New Mexico where hydraulic conductivity approaches 70 meters per day (240 feet per day) (Woomer, 2004). Specific yields are between 0.1 and 0.28, and the saturated thickness is about 30 meters (90 feet) (LCWUA, 2003).

3.8.2.1 The Ogallala Aquifer

The Ogallala Aquifer, also known as the High Plains Aquifer, is a huge underground reservoir created millions of years ago that supplies water to the region which includes the proposed NEF site. The aquifer extends under the High Plains from west of the Mississippi River to the east of the Rocky Mountains. The aquifer system underlies 450,000 square kilometers (174,000 square miles) in parts of eight States (Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas, and Wyoming). Figure 3-22 shows the Ogallala Aquifer and the proposed NEF site. Approximately 20 percent of the irrigated land in the United States is in the High Plains, and about 30 percent of the ground water used for irrigation in the United States is pumped from the Ogallala Aquifer. Irrigation accounts for about 94 percent of the daily aquifer use of more than 60 million cubic meters (16 billion gallons). Irrigation withdrawals in 1990 were greater than 53 million cubic meters (14 billion gallons) daily. Domestic drinking is the second largest ground-water use within the High Plains States, amounting to about 2.5 percent or 1.6 million cubic meters (418 million gallons) of total daily withdrawals (USGS, 2003b). In 1990, 2.2 million people were supplied by ground water from the Ogallala Aquifer with total public-supply withdrawals of 1.3 million cubic meters (332 million gallons) per day (USGS, 2004a). Withdrawals from the aquifer exceed recharge to it, and so the Ogallala Aquifer is considered a nonrenewable water source. The amount of water in storage in the aquifer in each State depends on the actual extent of the formation's saturated thickness.

The Ogallala Aquifer, the largest ground-water system in North America, contains approximately 4 trillion cubic meters (3.3 billion acre-feet) of water. About 65 percent of the Ogallala Aquifer's water is located under Nebraska (USGS, 2003b; RRAT, 2004); about 12 percent is located under Texas; about 10 percent is located under Kansas; about 4 percent is located under Colorado; and 3.5, 2, and 2 percent are located under Oklahoma, South Dakota, and Wyoming, respectively. The remaining 1.5 percent—or about 60 billion cubic meters (16 trillion gallons)—of the water is located under New Mexico (HPWD, 2004).

3.8.2.2 Municipal Water Supply Systems

The Eunice and Hobbs, New Mexico, municipal water-supply systems have capacities of 16,350 cubic meters per day (4.32 million gallons per day) and 75,700 cubic meters per day (20 million gallons per day), respectively. Current usage of the Eunice and Hobbs municipal water-supply systems are 5,600 cubic meter per day (1.48 million gallons per day) and 29,678 cubic meters per day (7.84 million gallons per day), respectively (LCWUA, 2000). Figure 3-23 reflects the local water uses (withdrawals) for community water systems (including Eunice and Hobbs) in Lea County for the year 2000.

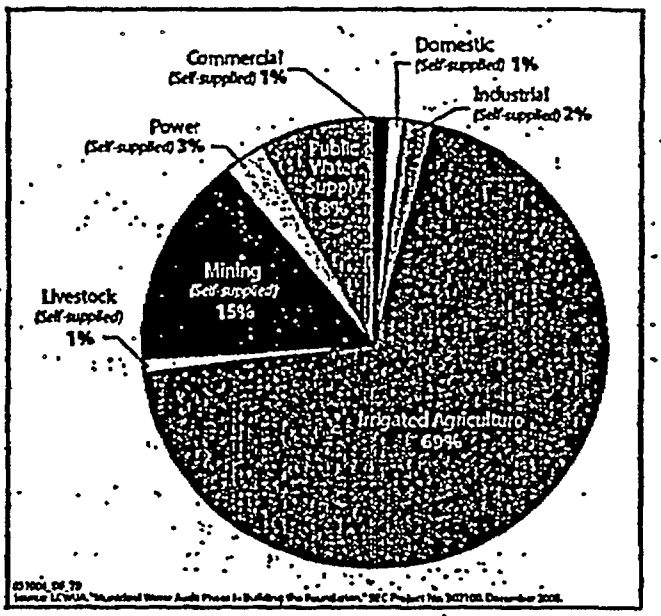


Figure 3-23 Lea County Water Use for 2000 (LCWUA, 2003)

The Lea County Water Users Association report also estimated the year 2000 uses for the water that Lea County pumps from the Ogallala Aquifer. Irrigation uses for agricultural purposes was 69 percent of the total usage (LCWUA, 2003). Public water supply constitutes 8 percent of the ground-water uses. Hobbs and Lovington pump more than 70 percent of the water needs for Lea County. Other Lea communities, including Eunice, Jal, and Tatum, together account for only 17 percent. Carlsbad, an Eddy County community, pumps about 10 percent of the water from Lea County public water-supply sources (LCWUA, 2003).

The city of Eunice's residential use poses the single largest demand for water from the municipal system (LCWUA, 2003). Figure 3-24 shows that it accounts for 41 percent of the total demand, while sales to retailers make up the second largest demand. Figure 3-25 shows that the city of Hobbs produces similar

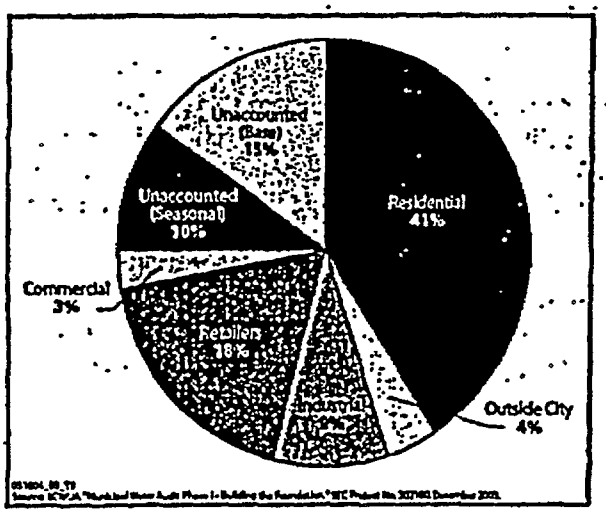


Figure 3-24 Eunice, New Mexico, Average Water Use for 2000-2002 (LCWUA, 2003)

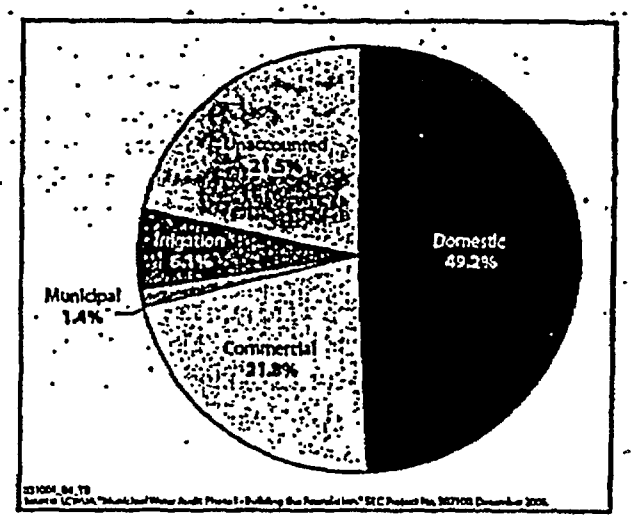


Figure 3-25 Hobbs, New Mexico, Average Water Use for 2000-2002 (LCWUA, 2003)

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.

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.

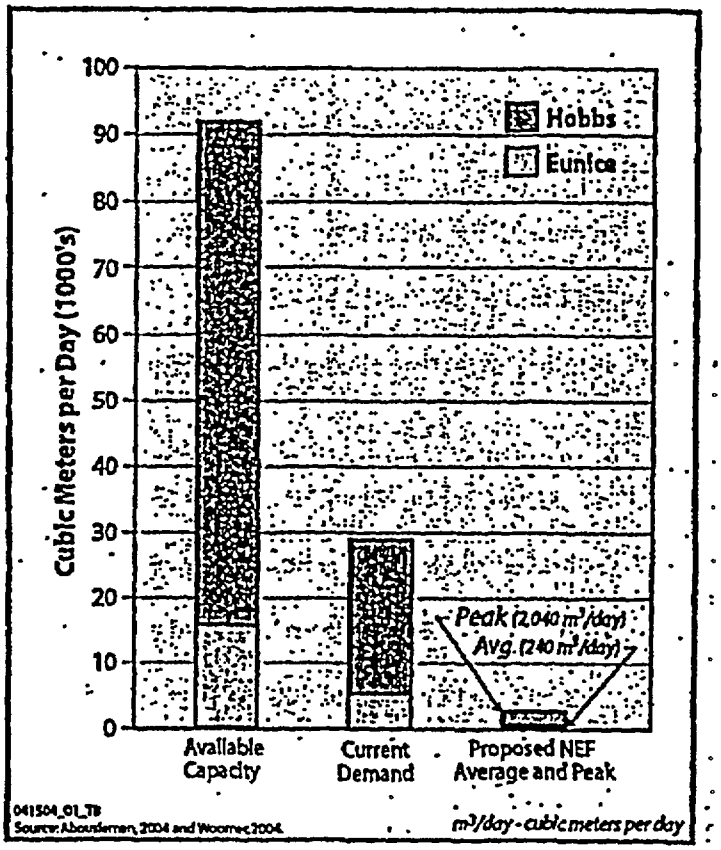


Figure 4-3 Eunice and Hobbs Water Capacities in Relation to the Proposed NEF Requirements (LES, 2004a; Abousleman, 2004; Woomer, 2004)

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