

A. TOBLIN STAFF EXHIBIT 1

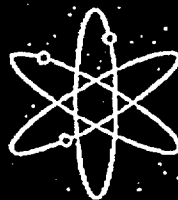
NIRS/PC EC-2



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**



1 ground-water monitoring wells upon completion of the wells. One well (MW-2) did produce water after
2 one month of monitoring, and the ground water in that well continued to recharge throughout the
3 monitoring period.
4

5 3.8.2 Ground-Water Use 6

7 No surface water would be used from the proposed NEF site nor ground water from beneath the site.
8 Instead, the proposed site would receive all of its water supply from the Eunice and/or Hobbs municipal
9 water supply systems. No water wells are located within 1.6 kilometers (1 mile) of the site boundary.
10

11 The local municipalities obtain water from ground-water sources in the Ogallala Aquifer near the city of
12 Hobbs, approximately 32 kilometers (20 miles) north of the site. The drinking water wells are positioned
13 in the most productive portion of the Ogallala Formation in New Mexico where hydraulic conductivity
14 approaches 70 meters per day (240 feet per day) (Woomer, 2004). Specific yields are between 0.1 and
15 0.28, and the saturated thickness is about 30 meters (90 feet) (LCWUA, 2003).
16

17 3.8.2.1 The Ogallala Aquifer 18

19 The Ogallala Aquifer, also known as the High Plains Aquifer, is a huge underground reservoir created
20 millions of years ago that supplies water to the region which includes the proposed NEF site. The
21 aquifer extends under the High Plains from west of the Mississippi River to the east of the Rocky
22 Mountains. The aquifer system underlies 450,000 square kilometers (174,000 square miles) in parts of
23 eight States (Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas, and
24 Wyoming). Figure 3-22 shows the Ogallala Aquifer and the proposed NEF site. Approximately 20
25 percent of the irrigated land in the United States is in the High Plains, and about 30 percent of the ground
26 water used for irrigation in the United States is pumped from the Ogallala Aquifer. Irrigation accounts
27 for about 94 percent of the daily aquifer use of more than 60 million cubic meters (16 billion gallons).
28 Irrigation withdrawals in 1990 were greater than 53 million cubic meters (14 billion gallons) daily.
29 Domestic drinking is the second largest ground-water use within the High Plains States, amounting to
30 about 2.5 percent or 1.6 million cubic meters (418 million gallons) of total daily withdrawals (USGS,
31 2003b). In 1990, 2.2 million people were supplied by ground water from the Ogallala Aquifer with total
32 public-supply withdrawals of 1.3 million cubic meters (332 million gallons) per day (USGS, 2004a).
33 Withdrawals from the aquifer exceed recharge to it, and so the Ogallala Aquifer is considered a
34 nonrenewable water source. The amount of water in storage in the aquifer in each State depends on the
35 actual extent of the formation's saturated thickness.
36

37 The Ogallala Aquifer, the largest ground-water system in North America, contains approximately 4
38 trillion cubic meters (3.3 billion acre-feet) of water. About 65 percent of the Ogallala Aquifer's water is
39 located under Nebraska (USGS, 2003b; RRAT, 2004); about 12 percent is located under Texas; about 10
40 percent is located under Kansas; about 4 percent is located under Colorado; and 3.5, 2, and 2 percent are
41 located under Oklahoma, South Dakota, and Wyoming, respectively. The remaining 1.5 percent—or
42 about 60 billion cubic meters (16 trillion gallons)—of the water is located under New Mexico (HPWD,
43 2004).
44

1 **3.8.2.2 Municipal Water Supply Systems**

2
3 The Eunice and Hobbs, New Mexico, municipal
4 water-supply systems have capacities of 16,350
5 cubic meters per day (4.32 million gallons per
6 day) and 75,700 cubic meters per day (20 million
7 gallons per day), respectively. Current usage of
8 the Eunice and Hobbs municipal water-supply
9 systems are 5,600 cubic meter per day (1.48
10 million gallons per day) and 29,678 cubic meters
11 per day (7.84 million gallons per day),
12 respectively (LCWUA, 2000). Figure 3-23
13 reflects the local water uses (withdrawals) for
14 community water systems (including Eunice and
15 Hobbs) in Lea County for the year 2000.

16
17 The Lea County Water Users Association report
18 also estimated the year 2000 uses for the water
19 that Lea County pumps from the Ogallala
20 Aquifer. Irrigation uses for agricultural purposes
21 was 69 percent of the total usage (LCWUA,
22 2003). Public water supply constitutes 8 percent
23 of the ground-water uses. Hobbs and Lovington pump more than 70 percent of the water needs for Lea
24 County. Other Lea communities, including Eunice, Jal, and Tatum, together account for only 17 percent.
25 Carlsbad, an Eddy County community, pumps about 10 percent of the water from Lea County public
26 water-supply sources (LCWUA, 2003).

27
28 The city of Eunice's residential use poses the single largest demand for water from the municipal system
29 (LCWUA, 2003). Figure 3-24 shows that it accounts for 41 percent of the total demand, while sales to
30 retailers make up the second largest demand. Figure 3-25 shows that the city of Hobbs produces similar
31

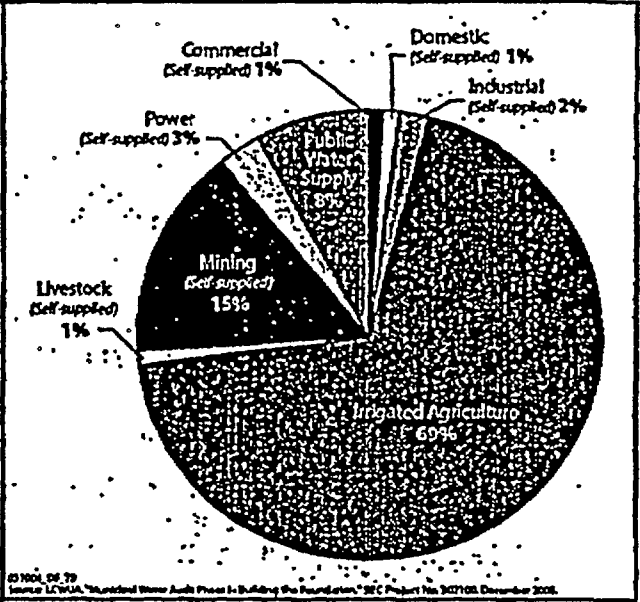


Figure 3-23 Lea County Water Use for 2000 (LCWUA, 2003)

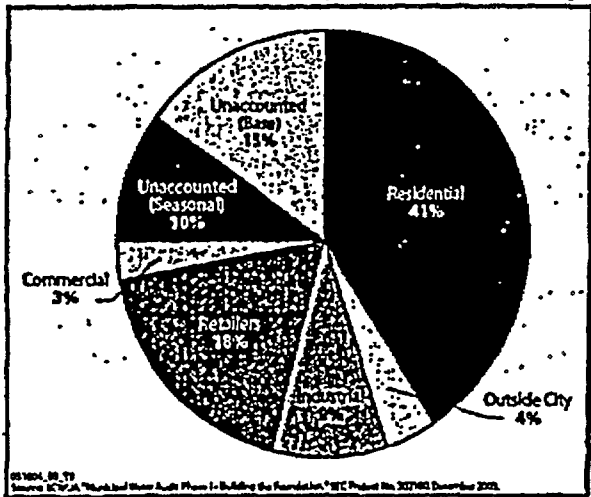


Figure 3-24 Eunice, New Mexico, Average Water Use for 2000-2002 (LCWUA, 2003)

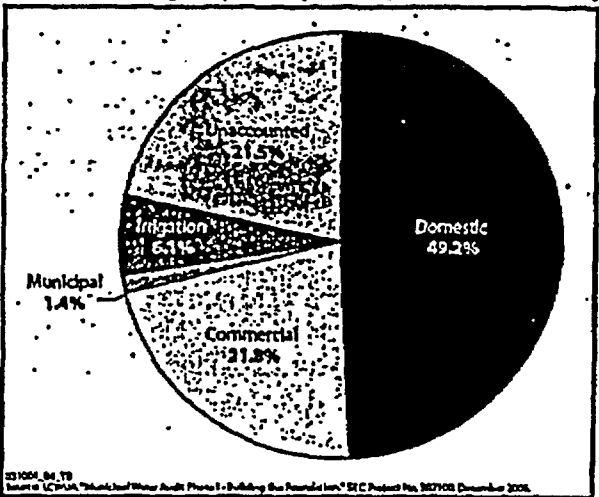


Figure 3-25 Hobbs, New Mexico, Average Water Use for 2000-2002 (LCWUA, 2003)

1 Septic Tanks and Leach Fields

2
3 Water seeping into the ground from the septic systems could be expected to form a perched layer on top
4 of the highly impermeable Chinle Formation similar to the "buffalo wallows" described in Chapter 3 of
5 this Draft EIS. The water can be expected to have limited downgradient transport because of the storage
6 capacity of the soils and the upward flux to the root zone. A conservative estimate of the impact from the
7 septic systems assumes all of the infiltrating water is transported downgradient. The local ground-water
8 velocity of the plumes coming from the septic system would then be about 252 meters (0.16 mile) per
9 year. The total cross-section (perpendicular to the flow direction) of the septic system plumes would be
10 116 square meters (1,250 square feet). The depth of the plumes was calculated to be about 1.16 meters
11 (3.8 feet) for a nominal total plume width of 100 meters (328 feet).
12

13 The proposed septic systems are included in the ground-water discharge permit application filed with the
14 New Mexico Environment Department/Ground-Water Quality Bureau (LES, 2004a). Sanitary
15 wastewater discharged to the septic system would meet required levels for all contaminants stipulated in
16 the permit (LES, 2004a). There are no ground-water users within 3.2 kilometers (2 miles) downgradient
17 (toward the southwest) of the proposed NEF site, and there are no downgradient users of ground water
18 from the sandy soil above the Chinle Formation. Contaminants would leach out of the septic system
19 discharge as water is transported vertically. Portions of the plume not evapotranspired traveling
20 downgradient could result in a minor seep at Custer Mountain or in the excavation 3.2 kilometers (2
21 miles) southeast of Monument Draw where the Chinle Formation is exposed (Nicholson and Clebsch,
22 1961). The septic systems would also be expected to have a SMALL impact on water resources.
23

24 **4.2.6.3 Water Uses of Operation**

25
26 The proposed NEF water supply would be obtained from the municipal supply systems of the cities of
27 Eunice and Hobbs, New Mexico. Water rights, if any, required for this arrangement would be negotiated
28 with the municipalities. The proposed NEF would consume water to meet potable, sanitary, and process
29 consumption needs. None of this water would be returned to its original source. The waters originate
30 from the Ogallala Aquifer north of Hobbs, New Mexico (Woomer, 2004). New potable water supply
31 lines would be approximately 8 kilometers (5 miles) in length from Eunice, New Mexico, and
32 approximately 32 kilometers (20 miles) in length from Hobbs, New Mexico, along county right-of-way
33 easements along New Mexico Highways 18 and 234. The impacts of such activity would be short-term
34 and SMALL (e.g., access roads to the highway could be temporarily diverted while the easement is
35 excavated and the pipelines are installed) (Woomer, 2004).
36

37 Eunice and Hobbs, New Mexico, have excess water capacities of 66 and 69 percent, respectively.
38 Average and peak water requirements for the proposed NEF operation would be expected to be
39 approximately 240 cubic meters (63,423 gallons) per day and 2,040 cubic meters (539,000 gallons) per
40 day, respectively. These usage rates are well within the excess capacities of both water systems and
41 would not affect local uses (Abousleman, 2004b; Woomer, 2004). The annual proposed NEF water use
42 would be less than the daily capacity of these systems. Figure 4-3 illustrates the relationships between
43 the proposed NEF projected water uses and Eunice and Hobbs water demand and system capacities. The
44 average and peak water use requirements would be approximately 0.26 and 2.2 percent, respectively, of
45 the combined potable water capacity for Eunice and Hobbs of 92,050 cubic meters (24.3 million gallons)
46 per day.
47

48 The proposed NEF operation would be expected to use on an average approximately 87,600 cubic meters
49 (23.1 million gallons) of water annually. For the life of the facility, the proposed NEF could use up to

1 2.63 million cubic meters (695 million
 2 gallons) of the Ogallala waters,
 3 encompassing both construction and
 4 operations use. This constitutes a small
 5 portion, 0.004 percent, of the 60 billion
 6 cubic meters (49 million acre-feet or 16
 7 trillion gallons) of Ogallala reserves in the
 8 State of New Mexico territory (HPWD,
 9 2004) and, therefore, the impacts to water :
 10 resources would be SMALL.

11
 12 **4.2.6.4 Mitigation Measures**

13
 14 Construction BMPs would limit the impacts
 15 from the installation of potable water supply
 16 lines and would also limit the impact of
 17 construction stormwater and wastewater to
 18 within the site boundaries. All construction
 19 activities would comply with NPDES
 20 Construction Stormwater General Permits
 21 and a ground-water discharge permit.

22
 23 The Liquid Effluent Collection and
 24 Treatment System would be used
 25 throughout operations to control liquid
 26 waste within the facility including the
 27 collection, analysis, and processing of liquid
 28 wastes for disposal. Liquid effluent
 29 concentration releases to the Treated
 30 Effluent Evaporative Basin and the UBC

31 Storage Pad Stormwater Retention Basin would be below the uncontrolled release limits set forth in 10
 32 CFR Part 20. A Spill Prevention Control and Countermeasures Plan would minimize the impacts for
 33 infiltration of hazardous chemicals into any formation of perched water that could occur during
 34 operation.

35
 36 A Stormwater Pollution Prevention Plan would be implemented at the proposed NEF site. Staging areas
 37 would be established to manage waste materials, and a waste management and recycling program would
 38 be implemented to segregate and minimize industrial and hazardous waste generation. Low-water-
 39 consumption landscaping techniques; low-flow toilets, sinks, and showers; and efficient water-using
 40 equipment would be used.

41
 42 Because the Ogallala Aquifer is a nonrenewable water source and future demand for water in the region
 43 would exceed the recharge rate, the present local water supplies could be affected. The Lea County
 44 Water Plan includes mitigation actions to be taken to increase water supplies in the future and actions to
 45 deal with drought conditions should supplies be insufficient. LES would comply with any drought-
 46 related conditions that would be imposed through the Lea County Water Plan or through other State or
 47 local actions. The drought management plan has four action levels: Advisory, Alert, Warning, and
 48 Emergency. Recommended actions for these levels include voluntary reductions, mandatory nonessential
 49 water-use restrictions (e.g., restrictions on car washing, landscape watering, ornamental water use), and

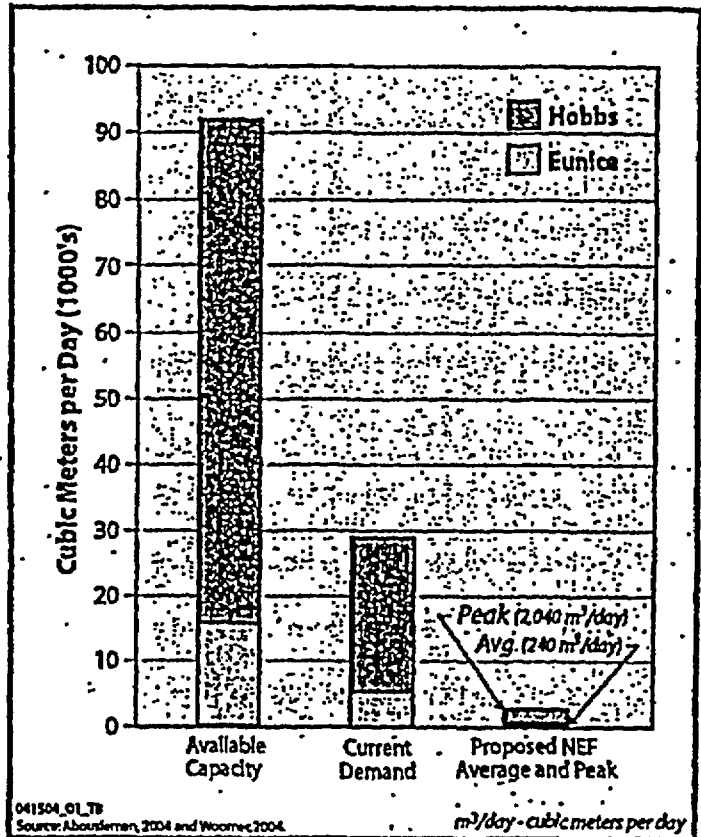


Figure 4-3 Eunice and Hobbs Water Capacities in Relation to the Proposed NEF Requirements (LES, 2004a; Abousleman, 2004; Woomec, 2004)