

**Title**

Final Environmental Impact Statement: Tonopah Test Range Area 10, Nye County, NV  
EIS dealing w/ Air Force activities / areas primarily infrastructure & Land use

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U. S. Department of Energy and U. S.  
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FINAL ENVIRONMENTAL IMPACT STATEMENT  
**TONOPAH TEST RANGE AREA 10**  
 NYE COUNTY, NEVADA

88-13  
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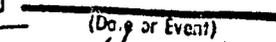
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COVER SHEET

- (a) Responsible Agency: U.S. Department of Energy  
Cooperating Agency: U.S. Department of Air Force
- (b) Proposed Action: Develop Remote Air Base at Area 10 of the Tonopah Test Range, Nye County, Nevada.
- (c) Contact for Further Information: TTR Site Manager  
U.S. Department of Energy  
P. O. Box 98518  
Tonopah, NV 89193-8518  
(702) 295-8550
- (d) Designation: Final Environmental Impact Statement (EIS). This final EIS is a revision of the Draft EIS (DEIS) and includes comments from a panel of experts convened to review the DEIS as a surrogate public. Responses to comments that resulted in substantive revisions or additions to the DEIS are presented in this EIS in italic type-face.
- (e) Abstract: Environmental impacts of the proposed action are analyzed. The no-action alternative not to develop such an air base and alternative locations for the facility are considered. Impacts of the proposed action result from: 1) intensive construction activities within approximately 14,500 acres of desert rangeland; 2) less intensive activities on adjacent lands associated with vehicular access and infrastructure development; 3) increased pollutant loading from vehicles, aircraft, generators, unpaved roads, and human occupation; 4) groundwater development and waste disposal practices; 5) natural resource management practices; and 6) major financial expenditures in rural south-central and urban southern Nevada. It is concluded that no overriding environmental factors are evident that render the proposed action unacceptable.
- (f) This EIS is classified in accordance with 40 CFR 1507.3(c) and thus, has been withheld from public review and comment. Further information may be obtained by contacting TTR Site Manager, U.S. Department of Energy, P. O. Box 98518, Tonopah, Nevada 89193-8518; telephone (702) 295-8550, or Environmental Coordinator, Nellis Air Force Base, Nevada 89110; telephone (702) 652-3420
- (g) Date Made Available to the Public: Neither this EIS nor the DEIS were made available to the public since both are classified in accordance with 40 CFR 1507.3(c). A panel of experts, acting as a surrogate public, was convened in November, 1987 to review the DEIS.



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## EXECUTIVE SUMMARY

### INTRODUCTION

The U.S. Department of Energy (DOE) proposed to develop a remote air base facility (RAB) in the northwest portion of the Tonopah Test Range (TTR) in Nye County, Nevada. Purpose of the proposed action is to provide a visually and geographically secure facility for national defense testing and training programs. The TTR is a portion of the Nellis Air Force Range (NAFR) and has been managed since 1956 by the DOE for the U.S. Air Force under a Memorandum of Understanding (MOU). TTR was originally withdrawn from the public land in 1940 and that withdrawal was renewed in 1986 under Public Law 99-606.

The RAB facility, known as Area 10, is situated on a parcel of land approximately 9 miles long (NS) by 5 miles wide (EW) at the northwest boundary of TTR. Area 10 proposed real property boundaries within this parcel incorporate approximately 14,500 acres. Two zones within Area 10 were proposed for intensive facility development. At the southern end, an industrial area and airstrip, known as Area 10A, were developed on approximately 1,400 acres, most of which is enclosed within a security fence. Approximately 6 miles to the north of the industrial area a housing complex, known as Area 10B, was developed within a fenced enclosure of approximately 130 acres. With minor exception, the remainder of Area 10 is unfenced and open to the desert rangeland of TTR. Water supplies, wastewater treatment facilities, and related infrastructure (e.g., roads, power lines, power substations, pipelines) were developed between and around Areas 10A and 10B. The construction activities within Area 10 will result in direct impacts to cultural resources and native vegetation and contribute dust to the atmosphere. Other direct impacts due to the human occupation of the area will include: diversion of groundwater for domestic, construction and industrial water supplies; generation of wastewater that must be treated and disposed of; generation of waste materials that must be disposed of in a sanitary landfill; and production of air pollutants from aircraft and vehicular activities. Indirect impacts will occur off-site in both the rural and urban southern Nevada economies through significant expenditures for construction and operation of the RAB.

### PUBLIC REVIEW

Since the proposed action is classified, this EIS has been withheld from the public under the provisions of 40 CFR 1507.3(c). However, in the spirit of the National Environmental Policy Act of 1969 (NEPA) and to ensure an adequate environmental analysis, a panel of independent experts was convened as a surrogate public to review the DEIS. The DEIS was completed on October 26, 1987 and copies were provided to the panel members for their review and comment. The panel members met in Reno, Nevada on November 10, 1987 to submit and discuss their comments and concerns with representatives from the DOE, the Air Force and the EIS contractor. This meeting was not recorded though notes were kept and a conference report was prepared. The final EIS is a revised version of the DEIS reviewed by the panelists. Substantive

[REDACTED]

Potable water for Area 10B housing facilities comes primarily from a Bureau of Land Management (BLM) well and is supplemented from Well 1A located in Area 10B. Well 1A and BLM well both feed a 110,000 gallon storage tank located in the housing complex. Water from Area 10A Operations and Maintenance facilities is pumped from Wells 3A and 3B through a six-inch water line to two 250,000 gallon storage tanks that are on a hill. The water is then gravity-fed back to the operations complex through a pressure reducing station. A four-inch line also feeds an open storage reservoir at the concrete batch plant, and a 6,000,000 gallon reservoir within the operations complex, used only for construction purposes, is supplied through a separate six-inch line from Wells 3A and 3B. Wells 3B and EH2, both new, provide additional potable water for Area 10A (Figure 1-5).

Electrical power for Area 10 is supplied by the Sierra Pacific Power Co. Incoming line voltage is 120KV and secondary voltage is 60KV. The 60KV feeder is an overhead line to both Area 10A and Area 10B. The Area 10A substation is a 60KV/13.8KV, 12 MVA-rated installation operated as a split-bus system that includes three separate loops and one radial feed. The radial feed circuit supplies power to the airfield lighting vault and control tower. The emergency power generation system for Area 10A consists of six 1,500 KW Detroit Allison Type MU, Class C, diesel generating units producing 4,160 volt 3-phase power. The Area 10B substation is a 60KV/13.8KV substation which feeds the open loop Area 10B distribution system.

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Telephone service on the site is provided using conduit and wiring built in major duct banks located underground or through buried cable. There are no overhead telephone lines on the site.

Aviation fuel, diesel fuel and gasoline are stored in tanks located at the tank farm, the old service station, or at individual sites. There are six above ground storage tanks at the tank farm (see Figure 1-5) and six underground tanks at the old service station.

All raw sewage from Area 10A was originally routed by gravity feed to a 50,000 gallons per day (gpd) package sewage treatment plant. Discharge from the plant flowed into a two-cell stabilization pond for secondary treatment and evaporation/percolation. This facility was closed down in 1986. Raw sewage from Area 10B, the housing area, historically was routed to a mechanical package sewage treatment plant and discharged to a stabilization pond south of the area. In 1985, that facility was phased out and effluent was routed to a larger new pond system. Treatment of sewage from Sandia operations was handled by on-site septic tanks. Currently, raw sewage from Areas 10A and 10B is discharged to a lagoon system located west of the housing area. Effluent from Areas 10A and 10B is pumped to the lagoon system using 3 lift stations. The treatment system consists of a 12.8 acre stabilization lined pond followed by two 1.9 acre evaporation/percolation basins. The system is designed for an average 30-day flow of 0.269 MGD, adequate to serve a full-time equivalent population of 2,500.

Sanitary landfill operations have taken place in an area just east of the industrial portion of Area 10A. There are two completed cells near the active landfill. The

[REDACTED]

materials disposed are classified as rubbish (i.e., waste paper, wood, rags, scrap, plastic, etc.). The sanitary landfill in operation at the present time consists of two active cells with room to create additional cells. Materials disposed are classified as rubbish with such materials collected and inspected for salvage prior to being taken to the landfill for final disposal. Hazardous materials/wastes are not disposed of in the landfill. These materials are handled as described in the "Hazardous Waste Management Program" (1985), therefore, preventing disposal in the landfill.

Passenger flights are by commercial aircraft operating under contract to the U.S. Government which transports DOE contractor personnel to and from Las Vegas, Nevada on normal work days. Forty-four round-trip flights a week are the average. Pollution by-products of aircraft field combustion includes both gases and solids. The principal solid product is carbon.

### 1.3.7 Interrelationships With Other Agencies

TTR, which is part of NAFR, is public land that has been withdrawn for use by the military in accordance with P.L. 94-579, the Federal Land Policy and Management Act of 1976 (FLPMA). As public land the BLM retains natural resource management responsibilities, though these responsibilities are subservient to the needs and programs of the military, in this case TFWC. Operational responsibility for TTR lies with DOE through an MOU between DOE and TFWC. In 1965, by joint agreement between Nellis AFB and BLM, a Nevada Wild Horse and Burro Range was established in the north central portion of the NAFR north range. The western boundary of the Wild Horse Range abuts the TTR east boundary, except in the northeast corner of TTR where the Wild Horse Range overlaps TTR. To coordinate resource management among the various overlying jurisdictions on the NAFR, an agreement was signed in 1977 by the Air Force, DOE, BLM, the U.S. Fish and Wildlife Service, and the Nevada Department of Wildlife. This agreement is known as the Five Party Cooperative Agreement.

#### Wild Horse and Burro Range

An agreement between BLM and the Commanding Officer of Nellis AFB was signed in June 1962 to establish a Wild Horse Range. An additional agreement containing the same provisions, but modifying the location of the Wild Horse Range, was implemented in June 1965.

In 1971, P.L. 92-195 was passed to protect wild horses and burros. The Law requires observation of the principles of multiple use, sustained yield and environmental quality. It is also dedicated to protect them from unauthorized actions and to manage their habitat in a manner to achieve and maintain an ecological balance and a population of sound, healthy individuals. In 1974, a cooperative agreement was signed by the DOI, ERDA (now DOE), and the Air Force to establish responsibilities relative to managing the Wild Horse Range. The developed management plan requires: 1) an annual inventory of the wild horses and burros in the area of joint concern, 2) continuing review of the habits of the wild horses and burros in terms of



### 3.3.2 Groundwater Quality

Water analyses at different points in time are available at ten locations to characterize the water quality within the study area (Table 3-6). None of the constituents analyzed exceeded the recommended health standards set by the Nevada Division of Health; with the exception of high pH levels at EH-1 well and Sandia #6 well. Although the pH values at these wells exceed the 8.5 pH cutoff (8.75 and 9.14, respectively), the waters do not pose health problems. *There have been no significant changes in chemistry over time. The observed differences are all within the range of natural fluctuations and/or analytical accuracy.*

The Roller Coaster well is classified as a sodium-bicarbonate-chloride type water, while the remaining wells are classified as sodium-bicarbonate type waters. The lithology of the rocks from the study area and from the surrounding environment control the water chemistry observed in these wells. Devitrification of volcanic glass and zeolites are general sources of sodium ions in groundwater, while the bicarbonate ions are probably derived from carbonate minerals (limestone and dolomite).

### 3.3.3 Water Use

Prior to the withdrawal of Cactus Flat for the Nellis Bombing and Gunnery Range, water resource development was limited. Development was restricted to springs and flood waters for the purpose of ranching and mining. In 1957, Sandia National Laboratories began operating the Tonopah Test Range. A number of wells were drilled for their use, but production from the wells was limited. In the early 1960's, three wells of greater capacity were drilled. These wells were to provide water for a maximum of 200 people and for fire protection capabilities.

In 1978, the U.S. Air Force began developing the water resources for their purposes. Two wells were drilled within Area 10. Records do not indicate the production from these wells. In 1985, three more production wells were drilled in Area 10.

TABLE 3-7. Applications to Appropriate Water.

No.	Date	Status With New State Engineer	Purpose	Consumptive Use (AFY)	Well Name
50166	Sep. 19, 1986	Ready for Action	Construction	123	EH-1
50167	Sep. 19, 1986	Ready for Action	Construction	460	3-A
50168	Sep. 19, 1986	Ready for Action	Quasi- Municipal	552	1-A
50169	Sep. 19, 1986	Ready for Action	Quasi- Municipal	491	EH-2
50170	Sep. 19, 1986	Ready for Action	Quasi- Municipal	460	3-B
46633	Feb. 14, 1983	Permitted - Needs Proof of Beneficial Use	Construction	460	BLM

### 3.3.5 Wastewater Management

*There are two sources of wastewater generated in Area 10. The first of these is domestic type sewage that is produced in both the Area 10A industrial complex and the Area 10B housing complex. The second source of contaminated water is produced by stormwater runoff from the apron and runway in Area 10A.*

#### Sewage Collection, Treatment and Disposal

*Sewerage systems in Area 10A and 10B collect wastewater which is pumped to the wastewater treatment plant located approximately 1-1/2 miles to the southwest of Area 10B (see Figure 1-5). There are no industrial wastes discharged to the sewerage system and thus, there are no hazardous or toxic chemical constituents in the sewage. This wastewater has an estimated BOD<sub>5</sub> concentration of 100 to 200 mg/l and thus, would be classified as a "weak" to "medium" domestic sewage (Metcalf and Eddy, 1972).*

*The wastewater treatment plant is designed to treat raw sewage in compliance with secondary treatment standards. Treatment is accomplished by an aerobic stabilization pond followed by two parallel evaporation/percolation basins (see Figure 3-5). The stabilization pond has a surface area of approximately 12.8 acres and the surface area of each evaporation/percolation basin is 1.9 acres. The treatment system is designed to handle an average flow of 0.269 million gallons/day (MGD) (301 acre-ft/yr), with a BOD<sub>5</sub> loading of 448 lb/day. Current average inflow is estimated to be 0.171 MGD (192 acre-ft/yr). Maximum operating depth is 5 feet and average detention time of design flow is approximately 77 days. The State of Nevada permit for this treatment plant (Permit No. NEV20001) allows for final disposal to the groundwater through the evaporation/percolation ponds.*

Open water evaporation at Area 10 is estimated to be 5 ft/yr and thus, approximately 64 acre-ft/yr is evaporated from the stabilization pond. At the current inflow rate, approximately 128 acre-ft/yr are infiltrated to the groundwater reservoir. At design flow, the infiltration would be approximately 237 acre-ft/yr. This infiltration return flow to the groundwater reservoir will reduce net annual groundwater diversions by a like amount. However, quality of this return flow will be poorer than that of the in-situ groundwater. The treatment process and infiltration will eliminate bacterial contamination, but concentration of chemical constituents will increase. This increase will be caused by the original primary use of the water that becomes sewage, which adds chemicals, and by the evaporation, which concentrates the chemicals. Average total dissolved solids (TDS) in the water supply is approximately 280 mg/l. Domestic use of this water will add approximately 200 mg/l and thus, the average TDS of the sewage will be approximately 480 mg/l (Metcalf and Eddy, 1970). Due to evaporation, the infiltrated treated sewage effluent at the current inflow rate will have a TDS of approximately 720 mg/l. At the design inflow rate, the TDS will decrease to approximately 640 mg/l. Table 3-8 summarizes estimated chemical characteristics for the Area 10 water supply, sewage and infiltrated effluent.

TABLE 3-8. Estimated Concentrations for Some Chemical Characteristics of Area 10 Water Supply, Sewage and Infiltrated Effluent (mg/l).

Characteristic	Average Water Supply(1)	Use Increment(2)	Sewage	Infiltrated Effluent (3)	
				Current	Design
Total Dissolved Solids (TDS)	280	200	480	720	636
Chloride (Cl)	17	35	52	78	69
Sulfate (SO <sub>4</sub> )	39	25	64	96	85
Nitrate (NO <sub>3</sub> )	18	30	48	72	64
Sodium (Na)	71	55	126	189	167
Potassium (K)	7	10	17	26	23
Calcium (Ca)	21	11	32	48	42
Magnesium (Mg)	2	7	9	14	12

(1) average values for wells 1-A, 3-A, 3-B and BLM (Table 3-6).

(2) average of the "increment added" range reported in Metcalf and Eddy (1970).

(3) based on 64 acre-ft/yr. evaporation.

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