



Hill Air Force Base, Utah

***Environmental Assessment for the
UTTR-North Power Pole Replacement,
Improved Access, and Power Grid
Upgrades***

February 2004

ENVIRONMENTAL ASSESSMENT
UTTR-NORTH POWER POLE REPLACEMENT,
IMPROVED ACCESS,
and POWER GRID UPGRADES

February 2004

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Finding of No Significant Impact for UTTR-North Power Pole Replacement, Improved Access, and Power Grid Upgrades

Description of the Proposed Action

5 The Air Force proposes to replace power poles at UTTR-North, improve access to the power poles for inspection and maintenance purposes, and complete various upgrades to the power distribution system.

Power Pole Replacement

10 Due to exposure to the elements, all the power poles at UTTR-North are scheduled for replacement over the next five fiscal years. The chance of poles failing due to splits or dry rot has prompted this action. If poles fail, power disruption, fire, and/or dangerous downed power lines might result. Below is a list of alternatives for replacing the power poles at UTTR-North:

- 15 • Preferred Alternative: hire a contractor to replace the power poles over a 5-year period, beginning in FY 2005;
- Alternative 1: replace all the power poles at one time rather than over a 5-year period; and
- No Action Alternative: do not replace the power poles.

Improved Access

20 Because access to inspect and service many of the power poles at the UTTR-North is inconsistent and unreliable, improvements are necessary. Improved access to the power poles is required to safely and expeditiously inspect and service power poles. Several alternatives to improve access were identified:

- 25 • Alternative 1: construct an improved service road along portions of the power line that are not on BLM-administered lands;
- Alternative 2: obtain a new service vehicle outfitted with tracks instead of wheels;
- Alternative 3: obtain a tracked apparatus that could be installed in place of the wheels on the current service vehicles;
- Alternative 4: move the power line closer to existing roads as the power poles are replaced; and
- 30 • No Action Alternative: continue operating under the current situation.

Power System Upgrades

35 Upgrades to the UTTR-North power system are necessary to maintain the service and safety functions of the system. The upgrades will extend the lifespan of the power system to support the continued mission of UTTR-North. A list of alternatives to complete the power grid upgrades follow:

- Alternative 1: perform upgrades as time allows and concurrent with power pole replacement;
- Alternative 2: perform upgrades after power poles have been replaced; and
- 40 • No Action Alternative: do not upgrade the power grid.

Summary of Environmental Impacts

45 This section describes the effects that the proposed action would have on the existing conditions at UTTR-North. The effects or impacts of the proposed action can be beneficial or adverse, and short-term or long-term, as discussed below.

Surface Water

50 Surface water conditions are not expected to be affected by the proposed action. Runoff water will infiltrate into the ground and since there are no surface water resources near the power poles, no adverse impacts are expected.

Groundwater

Groundwater conditions are not expected to be affected by the proposed action.

Geology and Soils

55 The proposed action disturbs surficial soils in the course of construction activities. However, this disturbance would be short-term and minimized by implementing standard construction practices.

Vegetation

60 There are no anticipated adverse impacts to vegetation. Alternative 1 for Improving Access would displace vegetation, but since this vegetation is common and native to the area, this displacement is insignificant. There are no sensitive or endangered plant species in the vicinity of the power poles.

Wetlands

65 Wetlands are not expected to be affected by the proposed action.

Wildlife

Wildlife is not expected to be adversely affected by the proposed action.

Air Quality

70 There would be no anticipated adverse impact to air quality from the emissions caused by construction activities of the proposed action. Appropriate dust control measures would be implemented during construction activities. No other impacts to air quality are anticipated.

Cultural Resources

75 No adverse impacts to archaeological, historical, or cultural resources are anticipated. If archaeological, historical, or cultural sites are discovered, coordination with the State Historical Preservation Office (SHPO) would commence to mitigate impacts to those sites.

Land Use

80 There would be no impact to current land use in the vicinities of the proposed action.

Noise

There are no adverse noise impacts from the proposed action.

85 *Transportation*

Short-term traffic interruptions may occur under the proposed action. These would be due to the movement of heavy equipment and would be short in duration. No adverse impacts are anticipated under the proposed action.

90 *Socioeconomic Conditions*

New temporary work would be created under the proposed action. Also, the proposed action would allow operations to continue at UTTR-North. Therefore, no adverse impacts to socioeconomic conditions are anticipated.

95 *Environmental Justice*

Environmental justice analyses for National Environmental Policy Act (NEPA) documents attempt to determine whether a proposed action disproportionately impacts minority and poor populations. Because these populations do not exist within or in the vicinity of UTTR-North, no such analysis was conducted.

100 *Cumulative Impacts*

There would be no anticipated adverse cumulative impacts expected from the actions required for Power Pole Replacement, Improved Access, or Power Grid Upgrades. Operations at UTTR-North would continue.

105 *Conclusion*

Based on the results of this EA, no significant adverse environmental impacts are expected due to the actions of Power Pole Replacement, Improved Access, and Power Grid Upgrades, provided all policies, procedures and regulations are strictly followed. Therefore, in accordance with Air Force Instruction 32-

110 7061, a Finding of No Significant Impact (FONSI) may be issued, and preparation of an Environmental Impact Statement (EIS) is not necessary.

Hill Air Force Base, Utah

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Authorized Signature

Date

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EDROM

	AASHTO	American Association of State Highway and Transportation Officials
5	AFB	Air Force Base
	AFI	Air Force Instruction
	ANSI	American National Standards Institute
	bgs	Below ground surface
	BLM	Bureau of Land Management
10	BRAC	Base Realignment and Closure
	CFR	Code of Federal Regulations
	DoD	Department of Defense
	EA	Environmental Assessment
	EIS	Environmental Impact Statement
15	EOD	Explosives Ordnance Division
	EPA	Environmental Protection Agency
	FONSI	Finding of No Significant Impact
	FY	Fiscal Year
	IEEE	Institute of Electrical and Electronics Engineers
20	NAAQS	National Ambient Air Quality Standards
	NEPA	National Environmental Policy Act
	NESC	National Electrical Safety Code
	NFPA	National Fire Protection Agency
	SHPO	State Historic Preservation Office
25	UDAQ	Utah Division of Air Quality
	UDWQ	Utah Division of Water Quality
	UDWR	Utah Division of Wildlife Resources
	USAF	United States Air Force
	UTTR	Utah Test and Training Range
30	UXO	Unexploded Ordnance

EXECUTIVE SUMMARY

5 Utah Test and Training Range (UTTR)-North is located in northwestern Utah, approximately 90 miles northwest of Salt Lake City. UTTR-North is owned and managed by Hill Air Force Base (Hill AFB) and serves a variety of Department of Defense (DoD) customers for training exercises, test functions, and support. Electrical power at UTTR-North is supplied through 76 miles of 12,000-volt overhead power lines. Poles carrying the lines have been installed in different years from 1963-1986, as the need arose. Some portions of the power line are located on Bureau of Land Management (BLM)-administered lands. The Air Force proposes to replace power poles at UTTR-North, improve access to the power poles for inspection and maintenance purposes, and complete various upgrades to the power distribution system.

15 Due to exposure to the elements, all the power poles at UTTR-North are scheduled to be replaced over the next five fiscal years. The chance of poles failing due to splits or dry rot has prompted this action. If poles fail, power disruption, fire, and/or dangerous downed power lines might result.

Because access to inspect and service many of the power poles at the UTTR-North is inconsistent and unreliable, improvements are necessary. Improved access to the power poles is required to safely and expeditiously inspect and service power poles.

20 Upgrades to the UTTR-North power system are necessary to maintain the service and safety functions of the system. The upgrades will extend the lifespan of the power system to support the continued mission of UTTR-North.

25 This Environmental Assessment (EA) analyzes the potential environmental impacts of 1) replacing the power poles, 2) improving access to the power poles, and 3) performing various power grid upgrades. Because the actions discussed in this EA involve some BLM-administered lands, this EA conforms to both the Air Force and BLM requirements for NEPA documents. A summary of potential impacts is listed in Table ES.1.

Table ES.1. Anticipated Environmental Consequences from Power Pole Replacement, Improved Access, and Power Grid Upgrades

Environmental Issues	Power Pole Replacement	Improved Access	Power Grid Upgrades	No Action Alternative
Surface Water	No adverse impact. There are no surface waters located in the vicinity of the power poles.	No adverse impact. There are no surface waters located in the vicinity of the power poles.	No adverse impact to surface waters.	No anticipated impact. There would be no changes to the existing facilities at UTTR-North.
Groundwater	No significant impacts to groundwater. Ground disturbance is not expected to reach groundwater levels.	No impact to groundwater quality is anticipated from any alternative to improve access.	No significant impact to groundwater, as discussed in previous two alternatives.	No anticipated impact. There would be no changes to the existing facilities at UTTR-North.
Geology and Soils	No significant impact. Mats could be placed around poles to limit surface soil disturbance.	Potential impacts exist for Alternative 1, as a new road requires grading. No adverse impacts anticipated for all other alternatives.	No anticipated impact to geology and soils, since upgrades will not disturb any ground.	No anticipated impact. There would be no changes to the existing facilities at UTTR-North.
Vegetation	No significant impact. Utilization of Best Management Practices would lessen the chance of invasive weed proliferation.	No significant impacts. Displaced vegetation is common and native. Best Management Practices would lessen the chance of invasive weed proliferation.	No anticipated negative impact on the vegetation, since upgrades will not disturb any ground.	No anticipated impact. There would be no changes to the existing facilities at UTTR-North.
Wetlands	No anticipated impacts. There are no wetlands located along the power line.	No anticipated impacts. There are no wetlands located along the power line.	No anticipated impact to wetlands, as discussed in previous two alternatives.	No anticipated impact. There would be no changes to the existing facilities at UTTR-North.
Wildlife	No anticipated impacts. No construction into new areas will be necessary.	No significant impacts. Insignificant impacts to wildlife migration routes may exist for Alternative 1.	No significant adverse impacts to wildlife are expected, as discussed in the previous two alternatives.	No anticipated impact. There would be no changes to the existing facilities at UTTR-North.
Air Quality	No significant adverse impacts to air quality are expected. Fugitive dust would be controlled in accordance with the <i>UTTR Facility Wide Fugitive Dust Control Plan</i> .	No anticipated impact. Fugitive dust during construction would be controlled in accordance with the <i>UTTR Facility Wide Fugitive Dust Control Plan</i> .	No significant adverse impacts to air quality are expected. Fugitive dust during construction would be controlled in accordance with the <i>UTTR Facility Wide Fugitive Dust Control Plan</i> .	No anticipated impact. There would be no changes to the existing facilities at UTTR-North.
Archaeological, Historical, and Cultural Resources	No significant adverse impacts to cultural resources are expected, as the power poles exist in an existing disturbed utility right of way. If resources are discovered, coordination with SHPO would occur.	No significant adverse impacts to cultural resources are expected, as a cultural survey will be conducted. If resources are discovered, coordination with SHPO would occur.	No anticipated impacts to cultural resources, as discussed in the previous two alternatives.	No anticipated impact. There would be no changes to the existing facilities at UTTR-North.
Land Use	No significant adverse impact. A beneficial impact exists by allowing the continuance of current land use at UTTR-North.	No anticipated adverse impact. There would be no changes to existing land use at UTTR-North.	No anticipated adverse impacts to land use. A beneficial impact exists by allowing the continuance of current land use at UTTR-North.	If power poles are not replaced and upgrades are not completed, the ability to provide sufficient power to support the current land use would be lessened. This would be a significant adverse impact.

Environmental Issues	Power Pole Replacement	Improved Access	Power Grid Upgrades	No Action Alternative
Noise	No significant impact. Noise would occur during replacement, but the level of this noise is not significant to the local off-site population.	No anticipated significant impact. Some noise due to construction, but the level of this noise is not significant to the local off-site population.	No significant impact to noise, as discussed in the previous two alternatives.	No anticipated impact. There would be no changes to the existing facilities at UTTR-North.
Transportation	No significant adverse impacts. Pole replacement is not expected to affect UTTR-North traffic.	No anticipated impact. Improved access would not affect UTTR-North traffic.	No significant impacts to transportation, as discussed in the previous two alternatives.	No anticipated impact. There would be no changes to the existing facilities at UTTR-North.
Health and Safety	No anticipated impacts.	No anticipated impacts.	No anticipated impacts.	Adverse impacts may result if power poles are not replaced and if power system is not upgraded. These scenarios would present more safety risks related to downed power lines and inspections.
Socioeconomics	A beneficial impact exists in that temporary work will be created to replace poles. Also, continued operations at UTTR-North would be possible; a benefit to all who work there and to DoD clients who depend on tests conducted at UTTR-North.	A beneficial impact by creating jobs, purchasing goods, and allowing inspection and maintenance activities to be run more efficiently.	A beneficial impact by assuring current operations will be able to continue at UTTR-North.	Adverse impacts may result if the power system is allowed to deteriorate. This would render UTTR-North incapable of fulfilling its mission. This result may affect BRAC considerations relative to Hill AFB and all who work there.
Environmental Justice	No anticipated impacts.	No anticipated impacts.	No anticipated impacts.	No anticipated impact. There would be no changes to the existing facilities at UTTR-North.

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Environmental Assessment for the UTTR-North Power Pole Replacement, Improved Access, and Power Grid Upgrades

5 1.0 INTRODUCTION AND BACKGROUND

1.1 Introduction

UTTR-North is located in northwestern Utah, approximately 90 miles northwest of Salt Lake City. The UTTR is owned and managed by Hill AFB and serves a variety of DoD customers for training exercises, test functions, and support. As shown in Figure 1-1, UTTR-North is located in Box Elder and Tooele Counties and covers approximately 369,022 acres. The Great Salt Lake lies to the east and I-80 lies to the south of the UTTR-North. Electrical power at UTTR-North is supplied through 76 miles of 12,000-volt overhead power lines. Poles carrying the lines have been installed in different years from 1963-1986, as the need arose. The Air Force proposes to replace power poles at UTTR-North, improve access to the power poles for inspection and maintenance purposes, and complete various upgrades to the power distribution system.

Power pole replacement is scheduled over 5 years, beginning in fiscal year (FY) 2005. The procedure to replace the poles consists of digging a new hole in which a new pole is placed by either truck or helicopter. The pole is secured in place with concrete. The power to the line is interrupted while the lines are transferred from the old pole to the new pole, after which the old pole is cut down.

Improved access to power poles at UTTR-North is required to facilitate inspection, maintenance, and power pole replacement activities. Currently, access to the power poles varies across the range. In the more developed areas, access is very good, with paved roads running adjacent to the power line. In less developed areas, access is a dirt two-track road that is impassable to wheeled vehicles in wet conditions. In outlying areas, access requires more serious off-road travel, with obstacles to dodge, gullies to navigate, and vegetation to avoid. In some areas on the range, such as the Grassy Mountain area, wheeled vehicular access is infeasible. Improved access to the power poles is necessary to allow full compliance with Air Force inspection and maintenance protocol; to provide a safer environment for workers; and to decrease the time required for completing this work.

There are various power grid upgrades planned for UTTR-North. The components that will be upgraded include circuit reclosers, conductors, distribution cutouts, fuses, insulators, lightning arresters, and switches. Each of these components is located on the poles and facilitate the distribution of power along the power cables.

1.2 Background

Seventy-six miles of overhead 12,000-volt power lines, carried by approximately 653 power poles, supply power to the facilities at UTTR-North (Figure 1-2). The power lines are routed to transformers, where the voltage is regulated, then to the various facilities. The first power poles, located in the Missile Storage Area, were installed in 1963. As the need arose, other power line spurs were constructed. Through the years, the poles have been routinely monitored for integrity. In addition to periodic integrity testing, power poles are required to be inspected for functionality every 90 days, as instructed in Air Force Instruction (AFI) 32-1063. The weather conditions at the UTTR-North—extreme highs reaching 95°-100° F and extreme lows reaching 10° -15° F with less than 5 inches of precipitation annually—have taken their toll on the poles. The results of the last integrity test, in 2000, showed that while the poles met National Electrical Safety Code Standards, many poles were either split or showed the beginning signs of dry rot, a fungus disease that causes the pole to become brittle and crumble into powder. Based on these findings, it has been determined that the poles need to be replaced.

As previously mentioned, access to the power poles at UTTR-North varies along the line. In the developed areas of UTTR-North, paved roads and well-traveled off-road byways are utilized. In undeveloped areas, access requires more demanding off-road travel. In some areas, due to steep grades and/or loose substrate, wheeled vehicular access is difficult or impossible. Typically, wheeled service trucks are driven along the paved roads or off-road in close proximity to each pole and inspected. After heavy rains or snowmelt, however, the soil at UTTR-North is generally very muddy and impassable to wheeled vehicles. The impassable conditions occur annually in the spring and during the summer thunderstorm season. In these instances, inspections are performed only on the poles that are accessible by paved roads until the ground is suitable for travel. If emergency service is needed, a tracked vehicle is used to tow the wheeled service vehicle to the pole(s) that need(s) servicing. Tracked vehicles are not hindered by the extreme muddy conditions.

Upgrades to the power grid at UTTR-North are required to maintain efficient and safe power distribution. Periodically, through inspections, various components are identified as sub-standard and require replacement to meet specifications. As technology changes, various components need to be replaced to maintain and improve safety and functionality. The upgrades planned for UTTR-North are necessary to maintain the proper function of the power system. The planned upgrades do not include supplying power to new areas or increasing the voltage.

A portion of the power line exists on land managed by the BLM. An agreement between UTTR-North and the BLM states that the U.S. Air Force must maintain the power lines that are located on BLM land.

1.3 Need for the Proposed Action

Due to exposure to the elements, all the power poles at UTTR-North are scheduled to be replaced over the next five fiscal years. The chance of poles failing due to splits or dry rot has prompted this action. If poles fail, power disruption, fire, and/or dangerous downed power lines might result. The replacement will provide continued services at UTTR-North and avoid unsafe conditions.

Because access to inspect and service many of the power poles at the UTTR-North is inconsistent and unreliable, improvements are necessary. Improved access to the power poles is required to safely and expeditiously inspect and service power poles and to ensure worker safety.

Upgrades to the UTTR-North power system are necessary to maintain the service and safety functions of the system. The upgrades, listed in Appendix A, will extend the lifespan of the power system to support the continued mission of UTTR-North.

1.4 Conformance with BLM Land Use Plan

The proposed action and alternatives discussed in this EA are not specifically listed in BLM Box Elder and Tooele County Resource Management Plans, however, they are consistent with the objectives, goals, and decisions of the plan. Additionally, the proposed action and alternatives discussed in this EA are within the limits of the agreement between the US Air Force and BLM regarding the maintenance of the power lines crossing BLM-administered lands.

1.5 Relationship to Statutes, Regulations, or other Plans

NEPA requires federal agencies to analyze the potential environmental impacts of a proposed action and to evaluate reasonable alternative actions. The results of the analyses are used to make decisions or recommendations on whether and how to proceed with those actions. AFI 32-7061, *Environmental Impact Analysis Process*, describes the process of preparing an EA for proposed actions on Air Force property. Based on the EA, either a FONSI or an EIS is prepared. Both the AFI 32-7061 guidance and

the implementing regulations of NEPA (40 *Code of Federal Regulations* (CFR) 1500) were followed in preparing this EA.

105 Because the actions discussed in this EA involve some BLM-administered lands, this EA also conforms to the BLM requirements for NEPA documents. Ongoing coordination with BLM in developing this EA assured conformance.

1.6 Identification of Issues

110 Agency coordination between US Air Force and BLM has identified several key issues that are discussed further in this EA. Table 1.1, which identifies critical issues related to the proposed action, is presented in accordance with BLM EA guidelines.

Table 1.1. Critical Issues Related to the Proposed Action at UTTR-North.

Critical Element	No Impact	May Impact	Not Present	Rationale
Air Quality	X			Power pole related work will not result in significant air quality impacts. If a service road is constructed, some temporary air quality impacts will occur, but can be mitigated with dust control measures.
Archaeological, Historical, and Cultural Resources		X		A complete assessment of resources must be completed prior to selecting alternatives to avoid and/or mitigate impacts.
Geology and Soils	X			The proposed actions will not impact soil quality or geological formations at UTTR-North.
Groundwater	X			The groundwater levels are deep enough at UTTR-North that they will not be impacted by the proposed action.
Land Use		X		The mission of UTTR-North will be able to continue through the proposed action. Under the No Action Alternative, the mission of the UTTR-North may not be fulfilled in the future.
Noise	X			The proposed action will not significantly alter the existing noise levels at UTTR-North.
Socioeconomic Conditions		X		Power pole-related improvements will assure continued operations and employment at UTTR-North.
Surface Water	X			Depending on what actions are selected, surface water impacts may occur. Prior to any action taken, mitigation measures must be identified.
Transportation	X			The proposed action will not significantly alter the existing transportation conditions.
Vegetation		X		The proposed action may adversely impact vegetation at UTTR-North.
Wetlands	X			The proposed action does not occur in proximity to any existing wetlands.
Wildlife		X		Depending on what actions are selected, wildlife impacts may occur. Prior to any action taken, mitigation measures must be identified.

Figure 1-2

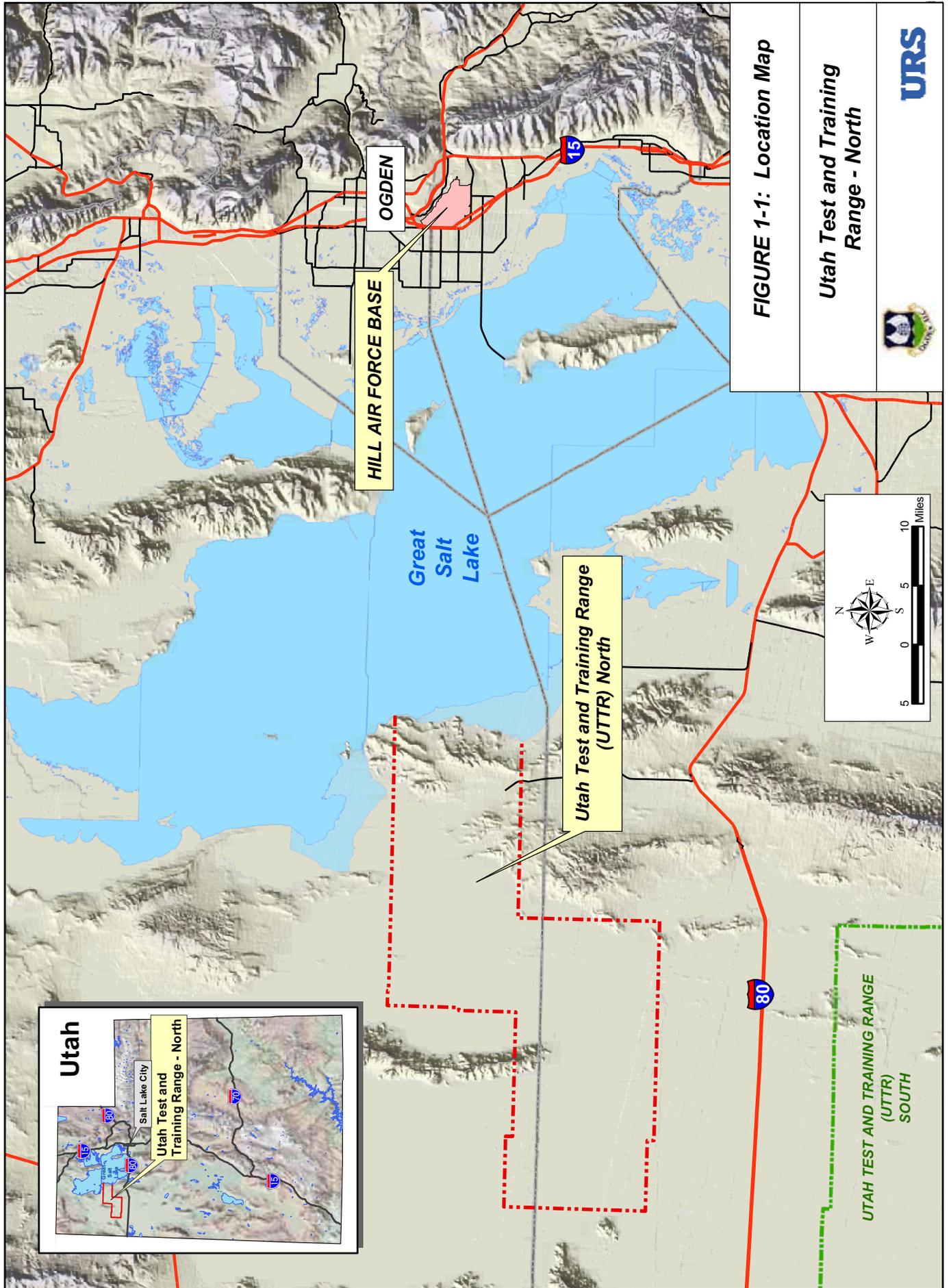


FIGURE 1-1: Location Map

Utah Test and Training Range - North



URS

2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

This section describes the alternatives that were considered by the U.S. Air Force for replacing power poles, improving access, and upgrading the power grid at UTTR-North.

2.1 Selection Criteria

According to AFI 32-1063, schedules to maintain and test electrical systems must be developed using the recommendations in National Fire Protection Agency (NFPA) guidelines 70B. Inspection and maintenance activities should comply with safety standards found in American National Standards Institute (ANSI) guidelines C2 and the National Electrical Safety Code (NESC), published by the Institute of Electrical and Electronics Engineers (IEEE). Power poles must meet NESC requirements in order to function properly. When power poles do not meet these standards, they must be replaced. The selection criteria for the replacement of the power poles at UTTR-North are:

- They must be replaced before they fail;
- They must be replaced with suitable power poles;
- Replacement must not to disrupt the activities at UTTR-North; and
- The action of replacing the power poles must be cost efficient.

In inspecting power poles, adequate access must exist to provide a safe zone for personnel and equipment. Inspection personnel must be able to get close enough to the poles to use equipment needed to perform an adequate inspection. At UTTR-North, these requirements lead to several criteria that must be met:

- Access must meet worker safety parameters;
- Access must be provided under all types of weather conditions;
- Access must allow vehicle position in close proximity to a power pole; and
- Access improvements must be cost efficient.

Upgrading the power grid at UTTR-North will maintain the functionality of the power system and improve safety. The planned upgrades are either replacement in kind projects or improvements that do not alter the physical footprint of the power line. The manner in which the upgrades are performed leads to several criteria:

- Upgrades must be performed in a cost efficient manner;
- Upgrades must be performed in such a way as to limit power interruption; and
- Upgrades must be performed in such a way as to maintain worker safety.

2.2 Description of Alternatives

Power Pole Replacement

The Preferred Alternative for power pole replacement consists of hiring a contractor to replace the poles on a five-year period, beginning in FY2005. Alternative 1 is to replace all the power poles at one time. The No Action Alternative for power pole replacement will also be addressed in this EA.

Improved Access

Through agency coordination and scoping, several alternatives for improving access were identified. The alternatives include Alternative 1) constructing a gravel or pit-run road along portions of the power line that are not on BLM property; Alternative 2) obtaining a new hi-reach service vehicle equipped with tracks instead of wheels; Alternative 3) obtaining a tracked apparatus that can be installed in place of wheels on existing service vehicles; and Alternative 4) moving the power line closer to existing roadways during power pole replacement. The No Action Alternative will also be assessed in this EA. This EA

will analyze all alternatives and will not present a Preferred Alternative for improving access to power poles at the UTTR-North. Upon analyzing each alternative, one or several alternatives may be selected to improve access to the power poles.

55 One alternative to improving access was considered but eliminated from further analysis. This alternative consisted of constructing an improved service road along the entire power line. This alternative was eliminated from further analysis because it was not consistent with BLM land use plans for the BLM-administered lands over which the power line crosses.

60 Power Grid Upgrades

There are two alternatives to consider for upgrading the power grid at UTTR-North. These include Alternative 1) perform upgrades as time allows and concurrent with power pole replacement; and Alternative 2) perform upgrades after power poles are replaced. The No Action Alternative will also be assessed in this EA. This EA will analyze all alternatives and will not present a Preferred Alternative for
65 upgrading the power grid. Upon analyzing each alternative, one or more alternatives may be selected to upgrade the UTTR-North power grid.

2.2.1 Power Pole Replacement

Preferred Alternative

70 The Preferred Alternative for power pole replacement is to hire a contractor to replace all the power poles at the UTTR-North over a 5-year period. The replacement would begin in FY 2005. By hiring a contractor, the capital costs of obtaining the proper equipment and personnel would not be realized. The scheduling of the power pole replacement would allow all normal activities to continue during the work with only minimal downtime when necessary. Replacement would begin with the power poles that are in
75 most dire need of replacement: the oldest poles. Entire spurs would be replaced at one time. This would permit power to continue flowing to areas other than those that are served by the spur. Repeated visits to the same spur would not be necessary. The U.S. Air Force would purchase all new power poles and have them at the UTTR-North for the contractor. Funding for the replacement would be spread over five fiscal years, lessening the financial impact this action might have if funded in a single fiscal year.

80

Alternative 1

Alternative 1 for the power pole replacement is to replace all the power poles at UTTR-North at one time. This alternative would require that UTTR-North stop operations completely during the replacement, since power to the whole grid would have to be shut down. The cost of replacing all the poles at the same time
85 would be realized in one fiscal year under this alternative instead of spread across five fiscal years, as is proposed in the Preferred Alternative. Also under this alternative, some power poles would be replaced before necessary.

No Action Alternative

90 The No Action Alternative to replacing the power poles on the proposed schedule is to continue operating for as long as possible until the power poles fail. The failure of one or many power poles would present a potentially dangerous situation.

2.2.2 Improved Access

Alternative 1

95 Alternative 1 for improved power pole access is to construct an improved service road along portions of the power line. Currently, a rudimentary dirt thoroughfare exists along portions of the power line. These thoroughfares are mostly void of vegetation and have been used to access power poles for inspections and maintenance. In wet conditions, however, these thoroughfares become very muddy, rendering them
100 impassable. A gravel, or pit-run, road would allow all-season access along these portions of the power

line. BLM has stated that new road construction will not be permitted on BLM-administered lands. Therefore, this alternative consists of constructing a service road along portions of the power line that are not on BLM-administered lands.

105 *Alternative 2*

Alternative 2 for improving access to power poles is to obtain a new service vehicle outfitted with tracks instead of wheels. The new service vehicle would require an aerial lift with the capability of reaching approximately 65 feet, as does the current service vehicle. The vehicle would be tracked instead of wheeled, allowing access in all weather conditions. While this new vehicle would be useful for power pole-related work when weather conditions render the wheeled vehicle unusable, other uses for this vehicle would be few. The cost of obtaining and maintaining a new tracked service vehicle would be a limiting factor, as this type of vehicle is typically considered a custom order. A cost estimate was not obtained for inclusion in this document because a possible purchase was not authorized.

115 *Alternative 3*

The third alternative for improving access to power poles is to obtain a tracked apparatus that could be installed in place of the wheels on the current service vehicles. This equipment is designed to distribute loads over a larger area than conventional tires do. According to conversations with a representative from one manufacturer of this equipment, the approximate cost is \$30,000.00. This alternative would afford year-round access to power poles and would be used on currently owned vehicles.

Alternative 4

Alternative 4 for improving access to power poles is to move the power poles closer to existing roadways when replacing the poles. Where the power line crosses BLM-administered lands, this alternative would require the Air Force to acquire the proper right-of-way clearance from BLM to establish a new power line corridor. If any roadways allow public access, then proper design standards relegating the proximity of power poles to lanes of travel would be followed. For instance, if American Association of State Highway and Transportation Officials (AASHTO) Guidance were to be followed, power poles would be allowed to be placed no closer than 10-12 feet from the edge of a traveled lane (AASHTO, 2002). This would allow a service truck to use the shoulder to access a power pole.

No Action Alternative

The No Action Alternative for improving access to the power poles is to continue operating under the current situation. Workers would continue to inspect some poles on foot and to tow the service vehicle to power poles in bad weather conditions. Under inclement weather conditions, power poles may not be inspected and emergency service may be delayed. The time commitment required for inspections would not be reduced and the required routine inspections may not be consistently met.

2.2.3 Power Grid Upgrades

140 *Alternative 1*

Alternative 1 for upgrading the power grid at UTTR-North is to perform these upgrades as time allows and concurrent with power pole replacement. Power upgrades would be performed while power is disrupted for power pole replacement. This would be an efficient use of resources and would minimize power shutdown times. The power grid would be upgraded to maintain functionality and improve safety, extending the life of the system.

Alternative 2

Alternative 2 for upgrading the power grid at UTTR-North is to perform upgrades after all the power poles have been replaced. This would delay the upgrades approximately five fiscal years, if the Preferred Alternative for power pole replacement were selected. When upgrades are performed, power to various

areas of UTTR-North may potentially be shut down for a period of time, resulting in possible scheduling conflicts.

No Action Alternative

155 The No Action Alternative to upgrading the power grid at UTTR-North is to allow the system to operate in its current state for perpetuity. By not upgrading the power grid to provide for the safest and most efficient power transmission, the costs of supplying power to areas at UTTR-North would continually escalate, as would the potential for catastrophic failure and unsafe conditions.

3.0 DESCRIPTION OF THE EXISTING ENVIRONMENT

The purpose of this section is to describe the current environment at UTTR-North with regard to natural resources, air quality, economics, and physical conditions.

3.1 Surface Water

Within UTTR-North boundaries, there are springs located in the Lakeside Mountains and the Grassy Mountains. Any flow originating from these springs generally infiltrates the ground within a short distance of the spring. Most of the springs are located on mountain flanks, adjacent foothills, or nearby lowlands. Intermittent drainages carry runoff from winter snows and rainshowers, which generally occur in spring and autumn.

The Great Salt Lake lies to the east of UTTR-North. It is a shallow saline remnant of Lake Bonneville that is confined in a low depression within the Great Basin. Surface water becomes progressively more limited towards the Great Salt Lake. Most of the precipitation that falls on the area is quickly discharged by evapotranspiration or is stored temporarily as soil moisture and then discharged by evapotranspiration (Dames and Moore, 1996). Waters that flow into the lake are trapped within the closed basin and can leave only by evaporation. The power lines do not run in close proximity to the lake, and are separated from the lake by the Lakeside Mountains.

3.2 Groundwater

The principal aquifer within UTTR-North is composed of gravel and sand deposits within the older valley fill in the basin and mountain flanks. Groundwater in the older valley fill occurs under both water table (unconfined) and artesian (confined) conditions (Price and Bolke, 1970). The depth to groundwater in the area ranges from approximately 200 to 400 feet below ground surface. Groundwater tends to flow northwesterly toward the Great Salt Lake Desert.

High dissolved solids and chloride content characterize groundwater quality at UTTR-North. Because of the high concentrations of total dissolved solids, groundwater at UTTR-North is classified as Class II, Limited Use Groundwater, or Class IV, Saline Groundwater (Utah Division of Water Quality, 2001).

3.3 Geology and Soils

UTTR-North lies in the Great Salt Lake Desert in the northeastern portion of the Basin and Range physiographic province. The province is characterized by several north-south trending mountain ranges separated by basins and valleys. Geologic formations comprising the mountain ranges at UTTR-North are primarily Paleozoic sedimentary rocks consisting of limestone, dolomite, sandstone, shale, and minor quartzite. The valleys are generally filled with unconsolidated and partially consolidated sediments of alluvial and lacustrine origin. The valley fill consists of clay, silt, sand, and gravel derived from erosion or mountain ranges, windblown silt and sand, and ancient Lake Bonneville lacustrine deposits. Much of UTTR-North consists of salt flats (mudflats), with extensive tertiary and quaternary alluvial, aeolian, and lacustrine valley fill deposits (Dames and Moore, 1996).

The surface soils at UTTR-North are essentially undifferentiated from Tertiary and Quaternary age deposits. Surface soils are characterized as basin fill deposits consisting mainly of non-indurated alluvial and lacustrine sediments deposited in ancient Lake Bonneville. Surface soils generally have low permeability, are strongly alkaline, and are saline. Generally, the low permeability of surface soils inhibits infiltration of the small amount of precipitation that falls at UTTR-North.

3.4 Vegetation

UTTR-North lies in the eastern portion of the Artemiseion province, which covers southeastern Oregon, southern Idaho, northeastern California, western Utah, and most of Nevada. Vast sagebrush-covered plains and isolated, partly forested mountains dominate this area. The province occupies the
55 physiographic section known as the Great Basin.

The primary plant communities at UTTR-North include salt desert shrub, Great Basin sagebrush, pinyon juniper woodland, and upper montane. Vegetation is nearly nonexistent at the lowest elevations along mudflats or dry lake beds (playas). Because of the harsh environmental conditions that exist throughout
60 the region (such as low rainfall, high temperatures, and accumulations of alkaline salts in the undrained basins), many plants of a specialized nature have evolved. A few examples of salt-tolerant plants that can withstand such harsh environmental conditions are iodine bush, pickleweed, and saltgrass. There are no resident federally threatened or endangered species at UTTR-North (Hill AFB 2001).

3.5 Wetlands

Wetlands at UTTR-North comprise approximately 22,600 acres (Parsons, 1995). The largest wetland type, approximately 99%, is classified as pickleweed-saltgrass-glasswort community. The predominant plant species located in these potential wetland areas include pickleweed, saltgrass, glasswort, and seepweed, with saltgrass decreasing in prevalence nearer the mudflat boundary of the wetland area. The
70 hydrology of the potential wetland areas generally includes saturated soils, watermarks, and sediment deposits. These potential wetland areas form a border between lower elevation mudflat areas and upland communities. Drier soils and plant species, including greasewood, rubber rabbitbush, shadescale, and cheatgrass identify upland communities. Differentiation between the potential wetland and mudflat areas is defined where the canopy cover of wetland vegetation is less than ten percent. Mudflat areas at UTTR-
75 North equal almost 240,000 acres, which is 65% of the total area of UTTR-North (Parsons, 1995). Power poles are not located near any wetland areas.

3.6 Wildlife

Wildlife at UTTR-North is limited due to the harsh climate, sparse vegetation, and arid conditions.
80 Mammals commonly found at UTTR-North include a variety of species such as mice, rats, rabbits, squirrels, badgers, kit foxes, coyotes, bobcats, mule deer, and pronghorn antelope. The most prevalent mammals include squirrels and pronghorn antelope (Hill AFB 2001).

A variety of bird habitats, including salt flats, desert shrubs, grasses, and juniper support several birds.
85 Species range from small passerines (perching birds and songbirds) to larger birds of prey. Some smaller birds common to the area include the horned lark, jays, magpie, and sparrows. Birds of prey include falcons, eagles, hawks, and owls. Mourning doves and chukar partridges are two species of game birds identified at UTTR-North.

Four bird species at the UTTR-North are on the Utah Sensitive Species List. These species are the bald eagle (*Haliaeetus leucocephalus*), also a federally listed threatened species, the ferruginous hawk (*Buteo regalis*), the burrowing owl (*Athene cucularia*) and the short-eared owl (*Asio flammeus*). Bald eagles commonly feed on fish and waterfowl and are often found around marshy areas. Jackrabbits and carrion
90 also provide sources of food. The ferruginous hawk nests at the edge of juniper habitats and open desert and grassland habitats. The species is highly sensitive to human disturbance. The burrowing owl and the short-eared owl are adversely impacted by agricultural and residential development, although the burrowing owl may be able to adapt to minor disturbances. There are no resident federally threatened or
95 endangered species at UTTR-North (Hill AFB 2001).

100

3.7 Air Quality

UTTR-North is located in both Box Elder and Tooele Counties, each of which have been designated as attainment areas for all the National Ambient Air Quality Standards (NAAQS), except for a portion of Tooele County near the Oquirrh Mountains, which is designated as moderate nonattainment for sulfur dioxide (SO₂). UTTR-North does not fall within the SO₂ nonattainment area of Tooele County. In addition, monitoring conducted at UTTR-North for hazardous air pollutant (HAP) emissions has previously indicated current air quality levels to be well within Utah Division of Air Quality (UDAQ) guidelines (Hill AFB, 1996).

3.8 Archaeological, Historical, and Cultural Resources

Archaeological inventories at UTTR-North have been conducted or contracted by the Air Force under Section 110 and Section 106 of the National Historic Preservation act. Based on these inventories, sites eligible for listing in the National Register (NR) are not typically found on the salt and mud flats (playas) that cover most of the Range. Instead, NR-eligible archaeological sites have been found along historic emigrant routes, in the mountains, in active sand dunes, and at locations that were periodically adjacent to the receding shorelines of ancient Lake Bonneville. Several intensive pedestrian surveys, covering approximately 86,132 acres, have been conducted at UTTR-North. As a result, forty-seven archaeological sites have been identified at UTTR-North. The majority of these sites are prehistoric and have been determined NR-eligible.

3.9 Land Use

Historically, UTTR-North, as well as much of the land surrounding the current north and south ranges, has been used for military purposes. During World War II, for example, almost 6 million acres of northwestern Utah were under DoD control. This number has decreased to the current amount of approximately 2 million acres.

Property located adjacent to UTTR-North is administered by federal and state governments and, to a limited degree, private landowners. These properties have limited economic resources, limited access, and minimal infrastructure. Federal lands surrounding UTTR-North are managed primarily by DoD and the BLM for multiple uses, including livestock grazing, wildlife management, mining, and recreation.

UTTR-North itself is owned, managed, and primarily utilized by the DoD. Activities conducted at UTTR-North include military personnel and weapons system training and testing, disposal of ordnance, explosives, etc., and use of facilities such as targets and test pads. The remoteness and relative isolation from populated areas makes it a safe and secure location for these military operations. UTTR-North consists of the Oasis area, an area where offices, room and board facilities for workers, storerooms, and maintenance facilities exist. The other areas of UTTR-North consist of open rangeland, accompanied with structures necessary for testing purposes (monitoring equipment, radio towers).

3.10 Noise

The Air Force is currently engaged in several operations on UTTR-North, including weapons testing, thermal treatment by open burning/open detonation, air-to ground weapons delivery practice, simulated air-to-air combat, and low-altitude tactical navigation training. Noise is generated in the local environs on UTTR-North from aircraft operations, ordnance explosion, maintenance, and construction.

3.11 Transportation

Transportation routes at UTTR-North consist primarily of a limited number of unimproved roads and established firebreaks. The Lakeside access road (Box Elder County Road) runs across the eastern section of UTTR-North, just west and parallel to the Lakeside Mountains. This road is accessible from

Interstate-80 and is not fenced off from the range. The Lakeside access road provides the only roadway access to UTTR-North.

Improved roads within UTTR-North boundaries are generally limited to the area directly surrounding the Oasis area. Lambert Boulevard extends southwest of the Oasis area, crossing BLM-administered lands, as it travels to DoD-administered lands further to the southwest. These roads are used by UTTR-North personnel to accomplish their missions. Travel on these roads is monitored by dispatch to ensure personnel are not present during various military operations. Gates are used to further restrict traffic from areas where military operations are being conducted.

3.12 Health and Safety

UTTR-North is a restricted military area in a remote location. Access is controlled and permitted solely by authorized personnel. During test and training operations, safety zones are established to prevent access to areas that could potentially result in injury in the unlikely event of an accident or other unanticipated event. Access to some power poles at UTTR-North is controlled by authorized personnel to assure safety. Due to historical activity at UTTR-North safety concerns also include dangers associated with unexploded ordnance (UXO) that may exist at any location within the UTTR-North boundaries. The Hill AFB Explosives Ordnance Division (EOD) is responsible for clearing areas of UXO prior to any activity on that area.

3.13 Socioeconomic Conditions

UTTR-North lies in a sparsely populated area of the Great Salt Lake Desert. There are no incorporated communities in the vicinity of UTTR-North. The only significant commercial development in the immediate area is at Wendover, approximately 60 miles west of the Oasis compound at UTTR-North. Casinos, lodging facilities, retail establishments, and related tourist facilities are present in the towns of Wendover, Utah and West Wendover, Nevada. The town is known primarily for its casinos and entertainment and most of its economic activity is related to gambling.

The relative isolation of UTTR-North is an integral part of operations at Hill AFB and, therefore, has an effect on the socioeconomic condition of Weber, Davis, and Salt Lake Counties and the communities which extend north and south along the west slope of the Wasatch Mountains (the Wasatch Front).

4.0 ENVIRONMENTAL CONSEQUENCES

This section describes the effects that the alternative actions would have on existing conditions at UTTR-North. The effects or impacts can be beneficial or adverse, direct or indirect, and short- or long-term. The impacts are discussed below with regard to each of the environments described previously in Section 3.

This section is organized by environmental topic. In each subsection, impacts associated with Power Pole Replacement and Improved Access are discussed. Due to the nature of power grid upgrades, they will not have any impacts to these environmental conditions. Power grid upgrades consist of improvements to existing equipment, such as changing insulators or switches. As the power grid upgrades will not impact environmental resources, they are not discussed in this section.

4.1 Surface Water

Power Pole Replacement

Preferred Alternative. Replacing the power poles over a span of five years would not impact any surface water resources at the UTTR-North. There are no surface waters located near the power poles.

Alternative 1. If the power poles were replaced all at once, there would not be any impacts to surface waters. There are no surface waters located near the power poles.

No Action Alternative. The No Action Alternative consists of not replacing the power poles at UTTR-North. Since no work would occur, there would be no impacts to surface water. There are no surface waters near the power poles.

Improved Access

Alternative 1. Constructing an improved service road along portions of the power line that are not on BLM-administered lands would not impact surface waters. Stormwater runoff during construction activities would infiltrate the ground.

Alternative 2. Obtaining a new service vehicle outfitted with tracks instead of wheels would not impact surface waters. There are no surface waters located near the power poles.

Alternative 3. Obtaining a tracked apparatus that can be installed on wheeled service vehicles would not impact surface waters, since there are no surface waters located near the poles.

Alternative 4. Moving the power poles closer to existing roadways would not impact surface water resources. There are no streams that run alongside any existing roadways at UTTR-North and moving the power poles closer to the roadways would not disrupt the drainage patterns along the roads. Construction activities associated with this alternative would not impact surface water resources because the construction vehicles would be able to stay on the roadway while installing the power pole.

No Action Alternative. The No Action Alternative would not impact surface water resources.

4.2 Groundwater

Power Pole Replacement

Preferred Alternative. Replacing the power poles over a period of five years would not impact groundwater resources at the UTTR-North.

Alternative 1. Replacing the power poles all at once would not significantly impact groundwater resources at the UTTR-North.

No Action Alternative. The No Action Alternative consists of not replacing the power poles. This action would not impact groundwater resources at UTTR-North.

55

Improved Access

Alternative 1. Constructing roads on non-BLM administered lands is not expected to disturb the ground to the depth at which groundwater is found. Therefore, no impacts to groundwater resources are expected with Alternative 1.

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Alternative 2. A new service vehicle equipped with tracks instead of wheels would not impact groundwater at the UTTR-North.

Alternative 3. Obtaining a tracked apparatus that can be installed on wheeled service vehicle would not impact groundwater at UTTR-North.

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Alternative 4. Moving the power poles closer to existing roads would not have significant impacts to groundwater. Construction associated with re-aligning the power line is not expected to be extensive enough to encounter groundwater resources.

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No Action Alternative. Since no work would take place with this alternative, no impacts to groundwater would occur.

4.3 Geology and Soils

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Power Pole Replacement

Preferred Alternative. Replacing the power poles over a five year span will not have significant impacts to geology and soils at the UTTR-North. Construction activities during replacement will impact surface soils, however, these soils have been previously disturbed and no additional disturbance would occur. To mitigate surface soil damage, mats could be placed on the ground where work is occurring.

80

Alternative 1. Replacing the power poles all at once would have similar geology and soil impacts as the Preferred Alternative.

No Action Alternative. Since no work would take place with this alternative, no impacts to geology and soils would occur.

85

Improved Access

Alternative 1. Constructing an improved service road along portions of the power line that are not on BLM-administered lands would impact geology and soils in the areas where a service road is developed. Grading activities would be required, as would the placement of fill material. After the road is constructed, maintenance of the roadway would not impact geology and soils.

90

Alternative 2. Impacts to geology and soils attributed to obtaining a new service vehicle outfitted with tracks instead of wheels would be equivalent or less than impacts attributed to wheeled vehicles. Tracks distribute a vehicle's weight more evenly and over a larger area than wheels. This allows vehicles to cross more varying terrain with less impact and with greater mobility. Through the use of tracks, fewer ruts and stuck vehicles would result.

95

Alternative 3. Obtaining a tracked apparatus that can be installed on wheeled service vehicles would have similar impacts as Alternative 2.

100

Alternative 4. Moving the power poles closer to existing roadways would have similar impacts to geology and soils as the impacts attributed to the Preferred Alternative for Replacing Power Poles.

105 No Action Alternative. The No Action Alternative would continue to impact geology and soil resources at UTTR-North. Wheeled service vehicles would continue to leave ruts when attempting travel during wet soil conditions.

4.4 Vegetation

110 *Power Pole Replacement*

Preferred Alternative. Replacing the power poles over the span of 5 years would not have significant impacts to vegetation. Vegetation located in the vicinity of power poles would be disturbed. However, this type of vegetation, native and introduced, would recover quickly. There are no threatened or endangered plant species identified in the vicinity of the power poles. Invasive species proliferation is possible if equipment is not cleaned correctly prior to commencing work at UTTR-North. Best Management Practices that limit the spread of invasive species would be employed to mitigate this damage.

120 Alternative 1. Replacing the power poles at one time would have similar impacts as the Preferred Alternative.

No Action Alternative. The No Action Alternative consists of no construction activities. As such, there would be no impacts to vegetation for this alternative.

125 *Improved Access*

Alternative 1. Constructing an improved service road along portions of the power line would impact vegetation in those areas. In constructing a road, vegetation would be displaced by the road. Since this vegetation is common and native to the area, and there are no threatened or endangered species in the vicinity of the power poles, these impacts will be insignificant. Once the road is completed, maintenance would require that the roadway be kept clear of vegetation. This would result in a net loss of vegetation.

135 Alternative 2. Obtaining a new tracked service vehicle to facilitate access to power poles would impact vegetation at UTTR-North. A tracked vehicle would impact vegetation as much as the wheeled service vehicles do. However, service vehicles are used sparingly and travel on established routes when possible. For these reasons, impacts to vegetation would be insignificant. The possibility of invasive species being transplanted by tracked vehicles exists if the vehicles are ever used in areas other than the UTTR-North.

140 Alternative 3. A tracked apparatus that can be installed on wheeled vehicles would have similar impacts to vegetation as the impacts of Alternative 2.

Alternative 4. Impacts to vegetation as a result of moving the power poles closer to the roadways would be insignificant. Adjacent to existing roadways, there is little vegetation because of the clear zone. Some vegetation exists but it is more sparsely distributed than vegetation further away from the roadway.

145 No Action Alternative. The No Action Alternative would result in the same impacts as are experienced today. During inspections and/or maintenance activities, when vehicles are required to be next to the power poles, vegetation in the path of the vehicles is sometimes disturbed.

150 4.5 Wetlands

Power Pole Replacement

Preferred Alternative. Because there are no wetlands along the power line, replacing the poles over the span of five years will not impact wetland resources at the UTTR-North.

155 Alternative 1. For the same reasons as those for the Preferred Alternative, there will be no wetland impacts attributed to this alternative.

No Action Alternative. Because the No Action Alternative does not consist of any pole replacement activities, there will be no impacts to wetlands for this alternative.

160 *Improved Access*

Alternative 1. Constructing an improved service road would not impact wetland areas at the UTTR-North. There are no water sources that feed wetlands in the areas where a service road would be constructed.

165 Alternative 2. Obtaining a tracked service vehicle would not impact wetland areas when inspecting or servicing power poles. If any vehicle were to travel through a wetland, negative impacts would result. However, if a tracked service vehicle were obtained, it would be used appropriately away from wetland areas to service the power system at UTTR-North.

170 Alternative 3. Impacts to wetlands for Alternative 3 are similar to impacts to wetlands for Alternative 2.

Alternative 4. Because there are no wetlands along the power line, or along the roadways adjacent to the power lines, moving the power line closer to existing roadways would not impact wetland resources at UTTR-North.

175 No Action Alternative. No construction activities or vehicle acquisitions would take place for the No Action Alternative; current operations would continue. Because of this, there would be no impacts to wetlands for this alternative.

180 **4.6 Wildlife**

Power Pole Replacement

Preferred Alternative. Replacing the power poles over the span of 5 years would not impact wildlife at the UTTR-North. Since this alternative would place new poles in the same locations as the existing poles, no new impacts would be presented. During construction activities, wildlife in the vicinity would be able to move out of harms way.

Alternative 1. Replacing the power poles all at one time will have similar impacts to wildlife as the Preferred Alternative.

190 No Action Alternative. Since no construction activities will take place with this alternative, there will be no impacts to wildlife resources.

Improved Access

195 Alternative 1. Constructing an improved service road along portions of the power line will not have significant impacts on wildlife populations at the UTTR-North. No state-sensitive or threatened or endangered species reside in close proximity to the power poles. Because of frequent human encroachment to the power poles, few or no animals reside close to the power poles. Construction of a road may pose various obstacles to wildlife migration and/or predation, however, due to the low level of traffic and relative serenity of the area, these impacts would not be significant.

200 Alternative 2. A tracked service vehicle may impact wildlife each time it is used off-road. This type of use may disturb habitat used for feeding, roosting, or denning in the course of its use. Since a service vehicle would be used sporadically, though, the potential that an animal could move into an area between

205 uses exists. This impact would be insignificant, since care is taken to travel along routes that disturb the least amount of habitat and off-road travel is required only occasionally.

210 Alternative 3. A tracked apparatus that can be installed on a wheeled service vehicle presents the same potential impacts as Alternative 2.

215 Alternative 4. Moving the power poles closer to existing roadways would have no significant impacts to wildlife. Off-road travel would be minimized, since the distance from existing roadways would be less. Any travel off the existing roadway would be in the clear zone area, which is largely devoid of suitable wildlife habitat.

220 No Action Alternative. The No Action Alternative would not alter the current operating status. This presents a potential negative impact to wildlife, as vehicles are used off-road to access power poles for inspections and/or service calls. This impact, however, is not significant, as care is taken to travel along routes that disturb the least amount of habitat and off-road travel is not required often.

4.7 Air Quality

Power Pole Replacement

225 Preferred Alternative. Impacts to Air Quality if replacing power poles over a 5-year span would be insignificant. Some air emissions from heavy equipment would occur, as would some dust due to excavation work. Dust would be controlled in accordance with the UTTR Fugitive Dust Control Plan, such as wetting down the surface soils of the area being worked. Because this alternative spreads work over five years, air emissions would not be prevalent compared to the existing environment.

230 Alternative 1. Impacts to air quality if replacing power poles at one time would be similar to impacts attributed to the Preferred Alternative. However, emissions may be more noticeable, since all work will take place in a shorter time period.

No Action Alternative. This alternative would not result in any impacts to air quality at UTTR-North.

Improved Access

235 Alternative 1. Constructing an improved service road along portions of the power line would result in construction vehicle emissions and dust pollution. In accordance with the UTTR Fugitive Dust Control Plan, mitigation strategies, such as wetting down the soil, would be employed to reduce these impacts.

240 Alternative 2. Obtaining a tracked service vehicle would result in insignificant air quality impacts. A tracked service vehicle would have different emissions than a current service vehicle. Dust pollution may differ because tracks are used instead of wheels. However, the dust and emissions caused by a bulldozer used to pull a wheeled service vehicle out of a muddy spot would not be realized with this alternative.

245 Alternative 3. A tracked apparatus that can be placed on wheeled service vehicles may result in higher dust pollution levels than the current state. Since the apparatus would be used sparingly and only in wet conditions, however, these impacts would be insignificant.

250 Alternative 4. Moving the power poles closer to existing roadways would decrease the need of off-road travel. Since more service traffic would travel on an improved gravel roadway, less fugitive dust would be generated. For these reasons, there would not be any significant impacts to air quality associated with Alternative 4.

255 No Action Alternative. The No Action Alternative does not include any construction activities. Therefore, there are no impacts to air quality for his option.

4.8 Archaeological, Historical, and Cultural Resources

Power Pole Replacement

260 Preferred Alternative. The power poles currently exist in an established utility right of way. This Preferred Alternative would replace the poles within the right of way. There are no known archeological resources near the power poles and no ground outside of the right of way would be disturbed. If any archaeological, historical, or cultural sites are found during construction activities, coordination with the State Historic Preservation Office (SHPO) would occur to limit or mitigate impacts.

265 Alternative 1. The impacts to archaeological, historical, and cultural resources for Alternative 1 are similar to the impacts for the Preferred Alternative, discussed above.

270 No Action Alternative. Since no ground disturbance would occur for the No Action Alternative, there would be no impacts to archaeological, historical, and cultural resources.

Improved Access

275 Alternative 1. Constructing an improved service road along the power lines would potentially disturb previously undisturbed ground. This creates the potential of impacting known or unknown archaeological, historical, and cultural resources. Prior to construction, intensive pedestrian surveys would be conducted to identify sites. If such sites are discovered before or during construction, coordination with the SHPO would occur to limit or mitigate impacts.

280 Alternative 2. A new tracked service vehicle would not disturb subsurface soils. Compaction of the soil is low, as tracks spread the vehicle's weight over a large area. While this type of vehicle is in use, previously traveled routes would be used, as appropriate, and aboveground structures would be avoided. For these reasons, there would be no significant impacts to archaeological, historical, and cultural resources.

285 Alternative 3. Impacts to archaeological, historical, and cultural resources for this alternative would be similar to impacts associated with Alternative 2, discussed above.

290 Alternative 4. Moving the power poles closer to existing roadways would relocate the poles from the existing utility right of way to within either the roadway right of way or a new utility right of way. The potential of disturbing previously undisturbed ground exists with this alternative. Prior to construction activities, an intensive pedestrian survey would be performed to identify any archaeological, historical, or cultural sites. If any sites are found before or during construction activities, coordination with SHPO would occur to limit or mitigate impacts.

295 No Action Alternative. The No Action Alternative would not alter the current status of power pole access. No construction or other disturbance activities would take place. For these reasons, there would be no impacts to archaeological, historical, and cultural resources associated with the No Action Alternative.

4.9 Land Use

Power Pole Replacement

Preferred Alternative

300 Replacing the power poles over a five-year span would be beneficial to UTTR-North land use. The current use of the range would be able to continue if the power poles were replaced to assure continued service and safety.

305

Alternative 1. The land use impacts of Alternative 1 are similar to the land use impacts of the Preferred Alternative.

310 No Action Alternative. This alternative would have negative land use impacts. As power poles deteriorate, the power distribution system would fail. As a result, continued use of UTTR-North would cease.

Improved Access

315 Alternative 1. Constructing an improved service road would not significantly impact the land use at UTTR-North. The roadways would not interfere with test areas.

Alternative 2. A tracked service vehicle would not impact land use at UTTR-North. The tracked vehicle would augment the current service vehicle fleet and would not detract from the mission of UTTR-North.

320 Alternative 3. This alternative has similar impacts to land use as Alternative 2.

Alternative 4. Moving the power poles closer to existing roadways would not impact land use at UTTR-North. Inspection and maintenance activities would be performed more efficiently, in support of UTTR-North operations.

325 No Action Alternative. The No Action Alternative would not adversely impact the land use at UTTR-North. Current operations would continue without any breaks in service.

4.10 Noise

330 *Power Pole Replacement*

Preferred Alternative. Replacing the power poles over a five-year period would have temporary noise impacts while work is underway. However, due to the nature of business at UTTR-North and the fact that no general public populations reside there, these impacts would be insignificant.

335 Alternative 1. The impacts of Alternative 1 are similar to the impacts of the Preferred Alternative, with the exception that the noise impacts would continue in one fiscal year until all power poles are replaced. Because the UTTR-North is a military facility where no general public populations exist, these impacts would be insignificant.

340 No Action Alternative.
The No Action Alternative will not consist of any power pole-related construction work. Therefore, there will be no noise impacts under this alternative.

Improved Access

345 Alternative 1. The construction activities associated with developing an improved service road will result in higher noise levels. However, due to the nature of business at UTTR-North and the fact that no general public populations reside there, these impacts would be insignificant.

350 Alternative 2. A tracked service vehicle may potentially be noisier than a wheeled service vehicle. However, because a service vehicle is not used constantly, and given the nature of business at the UTTR-North, these noise impacts would be insignificant.

Alternative 3. A tracked apparatus that can be installed on current wheeled service vehicles would have similar noise impacts as Alternative 2.

355 Alternative 4. Moving the power poles closer to existing roadways would have similar noise impacts as Alternative 1.

360 No Action Alternative. The No Action Alternative would have no noise impacts.

4.11 Transportation

Power Pole Replacement

365 Preferred Alternative. Replacing the power poles over a five-year span would result in temporary traffic interruptions. These interruptions would occur when equipment is mobilized. Due to sparse traffic levels and the fact that all traffic is in support of the UTTR-North mission, these temporary traffic interruptions would be insignificant.

370 Alternative 1. Replacing the power poles at once would result in temporary traffic interruptions. These interruptions would be necessary in order to mobilize equipment. Because of sparse traffic levels and the fact that all traffic is in support of the UTTR-North mission, these traffic interruptions would be insignificant. Also, while power is interrupted along one spur and operations dependent on that power spur are ceased, traffic in that area would decrease. Scheduling of replacement, however, would avoid disrupting scheduled tests. Thus, these impacts would be insignificant.

375 No Action Alternative. This alternative would not include any work on the power poles. As such, no equipment would be necessary and no impacts to transportation would occur.

Improved Access

380 Alternative 1. Constructing an improved service road would result in temporary traffic interruptions when equipment is moved. Due to the nature of traffic patterns at UTTR-North, these temporary impacts would be insignificant.

385 Alternative 2. A tracked service vehicle would be used sparingly and only when necessary. In performing inspections and maintenance, the vehicle would utilize existing roadways to travel to the vicinity of the work location, then travel off-road to access the pole for maintenance. While travelling on established roadways, some traffic interruptions may occur. However, due to sparse traffic levels and the nature of travel, these traffic interruptions would be insignificant.

390 Alternative 3. A tracked apparatus that can replace the wheels of existing service vehicles would have similar travel patterns and impacts as described in Alternative 2.

395 Alternative 4. Moving the power poles closer to existing roadways would not have significant impacts to transportation at UTTR-North. There would be short-term traffic delays when mobilizing construction equipment, but these interruptions would not disrupt the operations at UTTR-North.

No Action Alternative. The No Action Alternative would not have any significant negative impacts to transportation at UTTR-North, as current operations would continue.

4.12 Health and Safety

Power Pole Replacement

400 Preferred Alternative. Contractors replacing the poles would secure clearance to a certain area in order to work on the poles. Air clearance would be obtained in the event a helicopter is required for placing new poles. If proper access clearance practices are followed, there are no anticipated impacts on health and safety from the Preferred Alternative.

405 Alternative 1. Impacts to health and safety for Alternative 1 are similar to impacts for the Preferred Alternative.

410 No Action Alternative. Adverse health and safety impacts may result if the power poles are not replaced. As the poles deteriorate, the power system would become more hazardous relative to inspection and maintenance tasks. If poles fail, downed power lines would also present health and safety risks.

Improved Access

415 Alternative 1. Prior to road construction, the construction areas would need to be cleared by EOD to ensure that no UXO are present. A plan would have to be submitted to the Utah Division of Solid and Hazardous Waste detailing the steps that would be taken if buried waste were encountered during construction. Provided the area is cleared of all UXO, there are no anticipated health and safety concerns.

420 Alternative 2. Workers using a new tracked service vehicle would need to know how to safely operate the equipment. Provided workers receive the proper training, there would be no health and safety concerns.

425 Alternative 3. Impacts to health and safety for this alternative would be similar to impacts discussed for Alternative 2.

Alternative 4. Health and safety concerns of moving the power lines closer to existing roadways are similar to concerns discussed in Alternative 1.

430 No Action Alternative. Adverse health and safety impacts may result if access to power poles is not improved. Inspecting and/or maintaining power poles during inclement weather without improved access presents risks associated with working in unstable environments.

4.13 Socioeconomic Conditions

Power Pole Replacement

435 Preferred Alternative. Replacing the poles over a five-year period would allow normal operations to continue at the UTTR-North with as little disruption as possible. This benefits Hill AFB by allowing the Base to continue fulfilling its mission while the work is underway, as well as into the future. The pole replacement work would provide jobs for the contractors over the five-year span.

440 Alternative 1. Replacing the poles all at once would necessitate interrupting power service to the particular area work is being performed. This would mean that UTTR-North would undergo a second round of power disruptions to complete power grid upgrades.

445 No Action Alternative. Power poles would not be replaced under the No Action Alternative. While this would not have any short-term negative impacts, long-term negative impacts do exist. If power poles were not replaced, the power distribution system at UTTR-North would eventually fail, rendering UTTR-North unable to fulfill its mission. The military would no longer have full capabilities of the UTTR-North facility to conduct mission-critical tests, and supporting personnel at Hill AFB may potentially lose work. The inability of UTTR-North to fulfill its mission may also affect Hill AFB relative to BRAC, and Hill AFB may be subject to realignment and/or closure.

Improved Access

455 Alternative 1. Constructing an improved service road would create jobs at UTTR-North. New work would include design and permitting, coordinating with mission operations, and the actual construction of the road. Once complete, the service road would allow for more efficient inspection and maintenance of power poles.

460 Alternative 2. Obtaining a new tracked service vehicle would provide a short-term benefit to the marketer and manufacturer of that vehicle. A new tracked service vehicle would allow for easier access to power poles for inspection and maintenance, which would shorten the time required to perform those tasks.

Alternative 3. Obtaining a tracked apparatus that could replace the wheels of existing service vehicles would have similar socioeconomic impacts as Alternative 2.

465 Alternative 4. Moving the power poles closer to existing roadways would create more jobs for surveyors and construction workers. It would also allow for more efficient inspections and maintenance of power poles. Maintaining the road would add some operational cost to UTTR-North but would also create more jobs in performing that task.

470 Environmental Justice

Environmental Justice analyses for NEPA documents attempt to determine whether a proposed action disproportionately impacts minority and poor populations. However, because UTTR-North is not located adjacent to such groups, and because the proposed actions do not result in significant adverse impacts, no such analysis was conducted.

475 **4.14 Cumulative Impacts**
No adverse cumulative impacts at UTTR-North would occur with the proposed power pole replacement, access improvement, and power grid upgrades. Replacing the poles and upgrading the power system would extend its functional lifespan. The continued power distribution capabilities would maintain the capabilities of UTTR-North to serve as an important test and training facility.

Cumulative effects at UTTR-North associated with improving access to power poles include streamlining electrical maintenance work. Inspections and maintenance calls would be conducted more expeditiously and efficiently, freeing workers' time to tend to other tasks.

485 **4.15 Summary of Impacts**
A summary of the impacts described in this section is provided in Table 4.1. It is not anticipated that replacing the power poles, improving access, or completing power grid upgrades would have significant adverse environmental impacts. It is anticipated that performing these actions would result in beneficial impacts for UTTR-North.

Table 4.1. Anticipated Environmental Consequences from Power Pole Replacement, Improved Access, and Power Grid Upgrades

Environmental Issues	Power Pole Replacement	Improved Access	Power Grid Upgrades	No Action Alternative
Surface Water	No adverse impact. There are no surface waters located in the vicinity of the power poles.	No adverse impact. There are no surface waters located in the vicinity of the power poles.	No adverse impact to surface waters.	No anticipated impact. There would be no changes to the existing facilities at UTTR-North.
Groundwater	No significant impacts to groundwater. Ground disturbance is not expected to reach groundwater levels.	No impact to groundwater quality is anticipated from any alternative to improve access.	No significant impact to groundwater, as discussed in previous two alternatives.	No anticipated impact. There would be no changes to the existing facilities at UTTR-North.
Geology and Soils	No significant impact. Mats could be placed around poles to limit surface soil disturbance.	Potential impacts exist for Alternative 1, as a new road requires grading. No impacts anticipated for all other alternatives.	No anticipated impact to geology and soils, since upgrades will not disturb any ground.	No anticipated impact. There would be no changes to the existing facilities at UTTR-North.
Vegetation	No significant impact. Utilization of Best Management Practices would lessen the chance of invasive weed proliferation.	No significant impacts. Displaced vegetation is common and native. Best Management Practices would lessen the chance of invasive weed proliferation.	No anticipated negative impact on the vegetation, since upgrades will not disturb any ground.	No anticipated impact. There would be no changes to the existing facilities at UTTR-North.
Wetlands	No anticipated impacts. There are no wetlands located along the power line.	No anticipated impacts. There are no wetlands located along the power line.	No anticipated impact to wetlands, as discussed in previous two alternatives.	No anticipated impact. There would be no changes to the existing facilities at UTTR-North.
Wildlife	No anticipated impacts. No construction into new areas will be necessary.	No significant impacts. Insignificant impacts to wildlife migration routes may exist for Alternative 1.	No significant adverse impacts to wildlife are expected, as discussed in the previous two alternatives.	No anticipated impact. There would be no changes to the existing facilities at UTTR-North.
Air Quality	No significant adverse impacts to air quality are expected. Fugitive dust would be controlled in accordance with the <i>UTTR Facility Wide Fugitive Dust Control Plan</i> .	No anticipated impact. Fugitive dust during construction would be controlled in accordance with the <i>UTTR Facility Wide Fugitive Dust Control Plan</i> .	No significant adverse impacts to air quality are expected. Fugitive dust during construction would be controlled in accordance with the <i>UTTR Facility Wide Fugitive Dust Control Plan</i> .	No anticipated impact. There would be no changes to the existing facilities at UTTR-North.
Archaeological, Historical, and Cultural Resources	No significant adverse impacts to cultural resources are expected as the power poles exist in an existing disturbed utility right of way. If resources are discovered, coordination with SHPO would occur.	No significant adverse impacts to cultural resources are expected, as a cultural survey will be conducted. If resources are discovered, coordination with SHPO would occur.	No anticipated impacts to cultural resources, as discussed in the previous two alternatives.	No anticipated impact. There would be no changes to the existing facilities at UTTR-North.
Land Use	No significant adverse impact. A beneficial impact exists by allowing the continuance of current land use at UTTR-North.	No anticipated adverse impact. There would be no changes to existing land use at UTTR-North.	No anticipated adverse impacts to land use. A beneficial impact exists by allowing the continuance of current land use at UTTR-North.	If power poles are not replaced and upgrades are not completed, the ability to provide sufficient power to support the current land use would be lessened. This is a significant adverse impact.
Noise	No significant impact. Noise would occur during replacement, but the level of this noise is not significant to the local off-site population.	No anticipated significant impact. Some noise due to construction, but the level of this noise is not significant to the local off-site population.	No significant impact to noise, as discussed in the previous two alternatives.	No anticipated impact. There would be no changes to the existing facilities at UTTR-North.

Environmental Issues	Power Pole Replacement	Improved Access	Power Grid Upgrades	No Action Alternative
Transportation	No significant adverse impacts. Pole replacement is not expected to affect UTTR-North traffic.	No anticipated impact. Improved access would not affect UTTR-North traffic.	No significant impacts to transportation, as discussed in the previous two alternatives.	No anticipated impact. There would be no changes to the existing facilities at UTTR-North.
Health and Safety	No anticipated impacts.	No anticipated impacts.	No anticipated impacts.	Adverse impacts may result if power poles are not replaced and if power system is not upgraded. These scenarios would present more safety risks related to downed power lines inspections.
Socioeconomics	A beneficial impact exists in that temporary work will be created to replace poles. Also, continued operations at UTTR-North would be possible; a benefit to all who work there and to DoD clients who depend on tests conducted at UTTR-North.	A beneficial impact by creating jobs, purchasing goods, and allowing inspection and maintenance activities to be run more efficiently.	A beneficial impact by assuring current operations will be able to continue at UTTR-North.	Adverse impacts may result if the power system is allowed to deteriorate. This would hinder the capability of UTTR-North to fulfill its mission. This result may affect BRAC considerations relative to Hill AFB and all who work there.
Environmental Justice	No anticipated impacts.	No anticipated impacts.	No anticipated impacts.	No anticipated impact. There would be no changes to the existing facilities at UTTR-North.

5.0 CONSULTATION AND COORDINATION

5.1 Persons, Groups, and Agencies Consulted

In developing this EA, various contacts were made to assure accuracy. Table 5.1 lists each contact made, the purpose for the contact, and the result of that contact.

Table 5.1. Consultation and Coordination.

Persons, Agencies, and Organizations Consulted	Purpose and Authorities for Consultation or Coordination	Findings and Conclusions
BLM, Salt Lake Field Office: Grace Jensen, Anita Jones, Mike Nelson, Alice Stephenson	Consultation for BLM EA guidance and discussion of alternatives to the proposed action.	BLM provided their EA development guidance. BLM stated that it is not favorable or feasible to consider road construction on BLM-administered lands as a viable alternative.
Marcus Blood, Hill AFB, Natural Resources Manager	Consultation to provide information related to natural resources at UTTR-North.	Performed natural resources surveys and authored Integrated Natural Resources Mgmt. Plan.
Erne Chaplin, Hill AFB, Range Electrician	Consultation to provide details related to the proposed action.	Mr. Chaplin provided details on why proposed action is requested, relative to his power system inspection/maintenance job tasks.
Ben Crook, Hill AFB, CE	Consultation to provide information related to planned power grid upgrades.	Indicated components to upgrade include Circuit Reclosers, Conductors, Distribution Cutouts, Lightning Arresters, and Switches.
Jaynie Hirschi, Hill AFB, Cultural Resources	Consultation to provide information related to archaeological, historical, and cultural resources at UTTR-North.	Provided information as to when a cultural resources survey is required and that coordination is necessary if resources are discovered during construction activities.
Loni Johnson, Hill AFB, Real Estate Management	Consultation to provide details related to the agreement between Hill AFB and BLM by which Hill AFB will maintain power poles located on BLM-administered lands.	Indicated agreement does exist that Hill AFB maintains poles that are located on BLM-administered lands.

10 **5.2 List of Preparers**

Table 5.2 lists the preparers of this EA.

Table 5.2. List of Preparers

Name	Title	Responsibility
Kay Winn	NEPA Program Manager, Hill AFB	Project Oversight, NEPA Process
Alex Hildebrand	Environmental Scientist, URS	Coordination, EA development
Mary DeLoretto, PE	Project Manager, URS	Technical Coordination and Contract management
Patti Garver, PE	Environmental Engineer, URS	Technical Review
Julie Vigil	Administrative Assistant	Production

6.0 REFERENCES

- American Association of State Highway and Transportation Officials (AASHTO). *Roadside Design Guide*, 2002.
- 5 Dames & Moore, Inc. *Final Range Management Plan for the Hill Air Force Range and Wendover Air Force Range of the Utah Test and Training Range*, 1996.
- Hill Air Force Base. *Final - Ambient Air Quality Risk Assessment for the Thermal Treatment Unit (TTU) at the Utah Test and Training Range*, 1996.
- 10 Hill Air Force Base. *Integrated Natural Resources Management Plan*, 2001.
- Parsons Engineering Science, Inc. *Final Wetland/Mudflat Management Plan, Utah Test and Training Range, Utah*, 1995.
- 15 Price, D. and Bolke, E.L. Technical Publication No. 26, *Hydrologic Reconnaissance of the Sink Valley Area Tooele and Box Elder Counties, Utah*. U.S. Geologic Survey, Utah Department of Natural Resources, 1970.
- 20 Radian Corporation. *Draft Final Description of Current Conditions, Hill Air Force Range, Utah*, 1995.
- United State Air Force. Air Force Instruction 32-1063. *Electric Power Systems*, 1994.
- 25 United States Air Force. Air Force Instruction 32-7061. *The Environmental Impact Analysis Process*, 1995.
- URS Corporation. *Final—Environmental Assessment for Proposed Fishpond and Establishment of ATV Trails, Utah Test and Training Range-North*, 2001.
- 30 Utah Division of Water Quality. *Utah State Water Plan—West Desert Basin*, 2001.
- Utah Division of Wildlife Resources. *Utah Sensitive Species List*, 2003.

APPENDIX A

Photographs



Photograph 1. Power poles and surrounding area.



Photograph 2. Power poles with tire ruts.



Photograph 3. Power poles up Grassy Mountain with tire ruts.



Photograph 4. Looking down at power poles from atop Grassy Mountain.



Photograph 5. Previously traveled area adjacent to power poles.



Photograph 6. Wheeled hi-reach service truck.