FINAL
SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT

JOINT LAND ATTACK CRUISE MISSILE DEFENSE ELEVATED NETTED SENSOR SYSTEM (JLENS)
U.S. ARMY DUGWAY PROVING GROUND, DUGWAY, UTAH

September 2009

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FINAL
FINDING OF NO SIGNIFICANT IMPACT
JOINT LAND ATTACK CRUISE MISSILE DEFENSE ELEVATED NETTED SENSOR SYSTEM (JLENS)
U.S. ARMY DUGWAY PROVING GROUND, DUGWAY, UTAH

Pursuant to the National Environmental Policy Act (NEPA) of 1969 and the Council on Environmental Quality regulations (40 Code of Federal Regulations [CFR] 1500-1508) implementing the procedural provisions of NEPA, the U.S. Army gives notice that a Supplemental Environmental Assessment (EA) has been prepared for test operations of the Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System (JLENS) at U.S. Army Dugway Proving Ground (DPG), Utah and U.S. Air Force Utah Test and Training Range (UTTR). In accordance with the U.S. Army's regulations implementing NEPA, specifically 32 CFR 651.5(g), the Army reviewed the Final EA dated September 2007 and prepared the Supplemental EA to address new information and changes to the JLENS test operations. The 2007 Final EA and Supplemental EA are hereby incorporated by reference. Based on the findings of the Supplemental EA dated September 2009, it has been determined that an environmental impact statement is not required.

PROPOSED ACTION AND ALTERNATIVES

The Proposed Action is to establish land-based testing sites on which to test the JLENS system to determine its effectiveness against cruise missiles and other forms of aerial attack. The Proposed Action includes changes to the JLENS support facilities and testing program, and addresses new information relevant to environmental concerns with the testing. The testing process will use non-military Lear-type jets, small manned aerial radar target (SMART) aircraft, and unmanned aerial vehicles (drones) to test the JLENS target tracking capability. To demonstrate how radar data from the JLENS system can be used by a ground-launched missile system, up to six target drones will be intercepted with a live-fire, ground-launched missile. Operability of the radars in the aerostats will be tested in the moored and elevated positions using radiofrequency (RF) signals from different ground-based and aerial transmitters.

The No Action Alternative does not meet the purpose and need for fully testing the JLENS system for acquisition and production and is therefore rejected by the U.S. Army. No alternatives to the changes in the testing program or locations to conduct the testing were considered.

FINDINGS

The U.S. Army determined that certain environmental resources and issues will remain essentially unchanged or will not be affected by the Proposed Action, including geological resources, water resources, visual resources, airspace, environmental justice communities, socioeconomics, transportation, and range management. The anticipated environmental consequences from implementing the Proposed Action are summarized as follows:

Biological Resources: The number of drone flights planned over the testing period, the season of year the flights will occur, and the location of the flight path within Snake Valley will minimize the potential to affect soaring, roosting, or nesting raptors. Two seasons of raptor surveys will be completed to identify habitat areas of concern that will be monitored during five of the first eight drone flights. The drone flight path will be programmed towards the east side of the flight corridor as much as possible to avoid known nesting habitat if a planned flight occurs during peak nesting season. The reliability of the drones and SMART aircraft render the chances of an unintentional landing or a mishap in marsh habitats near DPG as negligible. There is no federally listed threatened or endangered species or designated critical habitat in the JLENS testing areas. Because of the location and the few and infrequent live-fire missile launches, effects from noise and combustion emissions on wildlife will be negligible. Human activity around testing equipment will likely prevent the antennas from becoming perches or nesting sites; however, DPG Environmental Program Office staff will address any nesting issues prior to lowering the antenna. Installation of the

meteorological station on Diddle Knoll will occur outside the breeding and nesting season to avoid affecting golden eagles in the vicinity. The RF emissions will not likely affect terrestrial or avian species of wildlife. Increases in body temperature due to RF emissions will likely cause wildlife in the area of the radars and emitters to move away from the source. The aerostats will be elevated at least 1,000 feet above ground level before full power during the radar testing, which is generally above the soaring elevation of birds.

Cultural Resources and Native American Concerns: The U.S. Army determined that Building 4062 is not eligible for listing on the National Register of Historic Places and therefore its demolition will not affect an historic property. Affecting an unknown historic property by falling debris from the drone/missile intercept will be minimal because the target area has a low probability of containing cultural resources. Standard operating procedures to retrieve intact drones will be followed to retrieve any remnants, including review by cultural resources staff. The potential to affect traditional or sacred sites is minimal.

Land Use: The Proposed Action is consistent with the operations in the UTTR and DPG and will not affect land use. Coordination with other land management agencies and compliance with any land use restrictions will minimize any effects of temporary placement of trucks and antenna trailers for the testing phase.

Fire Management: With appropriate fire management and prevention measures, including established notification and response protocols between DPG and the Bureau of Land Management and having the appropriate fire departments on standby during testing, wildland fire risk will not be significant.

Safety: The Proposed Action will have negligible effects on public safety and the safety of JLENS personnel because of secured areas, remote populations, stringent safety procedures, and reliability of the aircraft, drones, and equipment used for JLENS testing. Exposure levels from RF emissions during testing of the aerostat equipment and radars will not exceed the maximum permissible exposure limits.

Energy Management: Energy consumption to operate vehicles, equipment, and generators, and to construct and test the JLENS system will not be excessive for the program.

Air Resources: Emissions from missile launches and generators will have a negligible, localized effect on air quality; concentrations of combustion emissions will be well below the permissible threshold limits. Release of helium to the atmosphere from the aerostats will not affect any ambient air quality standard.

Hazardous Materials: Storing, handling, and using helium gas will not have any adverse effect to JLENS personnel or the environment. There will be small increases in use but no notable change in the types of hazardous materials handled and stored at DPG and UTTR. Existing hazardous materials storage and handling capabilities are adequate for the JLENS testing program; no impacts are anticipated.

Solid and Hazardous Waste: Hazardous wastes generated by the missile launches will not represent a substantial increase in the total quantities of similar wastes generated at DPG or UTTR. Debris from demolishing Building 4062 will not significantly affect solid waste disposal or landfill capacity.

Noise: Personnel in the missile launch hazard area will be sheltered in protective structures and wearing protective hearing devices. Noise levels outside the launch hazard area will be below regulatory requirements for hearing protection; no impacts are anticipated. The flight path of the drone will avoid occupied structures in Snake Valley by a minimum of one nautical mile thereby minimizing noise impacts on occupants.

Cumulative Impacts: Effects of the Proposed Action will not significantly contribute to or cause cumulative impacts on environmental resources in the area of DPG and UTTR.

PUBLIC REVIEW

The U.S. Army conducted public outreach between March and November 2008 and participated in four briefings and public meetings in communities in the Snake Valley area of Utah. A public notice was published in the Dugway Dispatch, Hilltop Times, Ogden Standard Examiner, Tooele Transcript Bulletin, Wendover Times, Ely Times, Salt Lake Deseret News, and Salt Lake Tribune announcing the availability of the Draft Supplemental EA and Draft Finding of No Significant Impact (FNSI) for a 30-day public review. Copies of the Draft Supplemental EA and Draft FNSI were placed three Salt Lake City libraries, one library in Tooele, and two DPG libraries.

CONCLUSION

Based on the Supplemental EA, I conclude that the environmental effects of the Proposed Action will not be individually or cumulative significant and the preparation of an environmental impact statement is not warranted.

9 MAR 2010

WILLIAM E. KING, IV. Date
COL, CM
Commanding
U.S. Army Dugway Proving Ground

In accordance with NEPA and the U.S. Air Force Environmental Impact Analysis Process (EIAP) regulations (32 CFR 989), the JLENS Supplemental EA was reviewed by Air Force personnel at Hill Air Force Base and Air Force Materiel Command and it was determined that the Supplemental EA satisfies Air Force EIAP requirements for adoption. I hereby adopt the Supplemental EA and based on its contents, conclude that the environmental impacts of the Proposed Action will not be individually or cumulatively significant and the preparation of an environmental impact statement is not warranted.

2 Apr 10

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FINAL SUPPLEMENTAL ENVIRONMENTAL ASSESSMENT
JOINT LAND ATTACK CRUISE MISSILE DEFENSE ELEVATED NETTED SENSOR SYSTEM (JLENS)
U.S. ARMY DUGWAY PROVING GROUND, DUGWAY, UTAH

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ACRONYMS AND ABBREVIATIONS

ABW	Air Base Wing
AFB	Air Force Base
AHAS	Avian Hazard Advisory System
ARL	Army Research Laboratory
BASH	Bird-aircraft strike hazard
BLM	U.S. Bureau of Land Management
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulation
CRMO	Cultural Resources Management Officer

dB	Decibels
DoD	Department of Defense
DPG	U.S. Army Dugway Proving Ground
DWR	Utah Division of Wildlife Resources
EA	Environmental Assessment
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FCR	Fire control radar
FNSI	Finding of No Significant Impact
FY	Fiscal year
GIS	Geographic information system
JLENS	Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System
kW	Kilowatt
MAAF	Michael Army Airfield
MOU	Memorandum of Understanding
NEPA	National Environmental Policy Act
NOTAM	Notices to Airmen
NRHP	National Register of Historic Places
RATO	Rocket-assisted take-off
RF	Radiofrequency
ROW	Right-of-way
RTJS	Radar Target/Jammer Simulator
SAMS	Surface Atmospheric Measurement Station
SEL	Single event level
SHPO	State Historic Preservation Officer
SITLA	State and Institutional Trust Lands Administration
SLAD	Survivability/Lethality Analysis Directorate
SMART-1	Small Manned Aerial Radar Target Model 1
SPD	Special Programs Division
SuR	Surveillance radar
U.S.	United States
USAF	U.S. Air Force
USFWS	U.S. Fish and Wildlife Service
UTTR	Utah Test and Training Range
WDTC	West Desert Test Center

CHAPTER 1
PURPOSE AND NEED FOR PROPOSED ACTION

1.1 INTRODUCTION

The United States (U.S.) Army, Dugway Proving Ground (DPG) released a final environmental assessment (EA) in September 2007 for a requirement to support testing of the Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System (JLENS). JLENS is being developed as an early warning sensor system to meet the threat of tactical enemy air attack systems, which fly at low altitudes to avoid detection by surfaced-based weapon systems. The JLENS system utilizes an early warning and surveillance sensor installed on a pair of aerostats (tethered balloons), to provide over the horizon detection and tracking of aircraft, helicopters, unmanned aerial vehicles, and cruise missiles. The JLENS system will undergo a series of tests, validations, and operational mission scenarios to determine its capabilities. Other support sites will be built and established to further support the JLENS system testing and training. These support sites will be at various locations on and off Department of Defense (DoD) property.

Following tribal consultation, public meetings, and review of the EA by federal agencies and the public, the U.S. Army, with U.S. Air Force (USAF) concurrence, signed a Finding of No Significant Impact (FNSI) on September 27, 2007 for the JLENS program and agreed that the testing should move forward. Pursuant to the Army's decision, construction and preparation for the JLENS testing is underway and will continue over a period of two to three years based on funding. To date, the aerostat pads at the north test sites have been constructed.

In accordance with the Army's regulations implementing the National Environmental Policy Act (NEPA), specifically 32 Code of Federal Regulations (CFR) § 651.5(g), the Army has reviewed the Final EA dated September 2007 (U.S. Army, 2007a) and has determined that there is new information relevant to environmental concerns with implementing the JLENS testing. Additionally, some changes to the JLENS support facilities and testing program are proposed that require the Army to supplement the environmental analysis to adequately address potential impacts in light of these changes. This Supplemental EA is prepared to consider the new information on the JLENS program and describes the changes since it was originally presented and incorporates the 2007 Final EA by reference.

1.2 PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose and need for the JLENS as stated in the 2007 Final EA has not changed. JLENS is a Research and Development, Test and Evaluation project being developed by the DoD to serve as an early warning sensor of enemy air attack systems that fly at low altitudes to avoid detection. The elevated (airborne) sensor of the JLENS extends communication ranges, overcoming terrain restrictions associated with ground-based sensors. The JLENS system will be tested to determine its capabilities as an early warning sensor system before it is put into full production.

1.3 LOCATION OF PROPOSED ACTION

Testing of the JLENS system will occur in military airspace and from land-based sites on DPG and the USAF Utah Test and Training Range (UTTR) North Range and South Range. Non-DoD property that will support the JLENS testing includes a section of land in Millard County from the State of Utah, School and Institutional Trust Lands Administration (SITLA) and existing right-of-way and leases from the Bureau of Land Management (BLM) granted to the USAF in Box Elder, Tooele, and Juab counties, Utah. The JLENS testing locations were shown in Figures 1 and 2 in the 2007 Final EA.

Additional test sites have been identified for the early integration and test phase of the JLENS surveillance radar (SuR) and fire control radar (FCR). These sites are located on DPG and USAF property and on public access roads managed by Tooele County, SITLA, or Utah Division of Wildlife Resources (DWR) (see Figure 1).

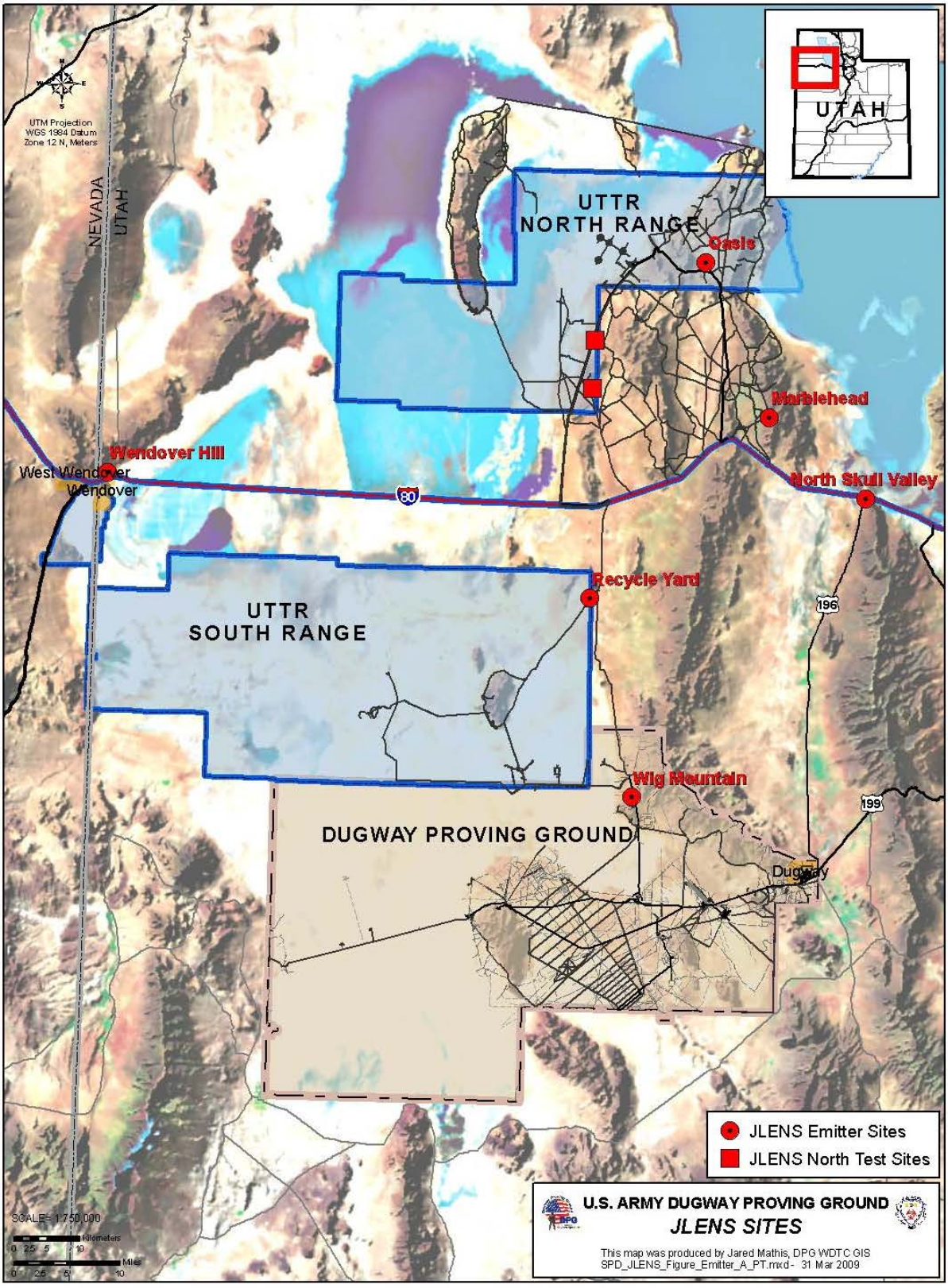

Figure 1. Location of JLENS Radar Test Sites

CHAPTER 2
PROPOSED ACTION AND ALTERNATIVES

2.1 JLENS TESTING PROGRAM

The Proposed Action described in the Final EA and approved by the U.S. Army by the FNSI dated September 27, 2007 is to establish land-based testing sites on which to test the JLENS system to determine its effectiveness against cruise missiles and other forms of aerial attack. The components of the JLENS testing sites and the testing process that would be changed or that have resulted in new information relevant to environmental concerns are described in the following sections.

Construction and preparation of the sites for the JLENS testing began in fiscal year (FY) 2008 and will continue through FY 2010 based on funding. Testing of the JLENS system is programmed to begin in FY 2010, which is one year later than assessed in the Final EA, and may continue through FY 2015.

2.1.1 JLENS

The JLENS system of elevated surveillance sensors in aerostats tethered to ground-based mooring and processing stations is described in the 2007 Final EA.

2.1.2 Testing Process

New information and changes in the testing process since the 2007 Final EA are described in this section.

2.1.2.1 Aerostats

The testing process begins with the deployment of the two aerostats at the north test sites on the UTTR-North Range. The aerostats are filled with approximately 888,000 cubic feet of helium. The aerostats will be deployed (elevated) and recovered as required for testing and maintenance throughout the duration of the test period but would not remain airborne for longer than 30 consecutive days. The aerostats will be lowered for maintenance which includes adding helium because the aerostats can lose approximately 450 cubic feet a day when elevated. The helium would be obtained from a local compressed-gas vendor and delivered to the north test sites by tractor trailer and stored by the aerostat pads for use.

2.1.2.2 Aircraft

Photo 1. SMART-1 Aircraft

Targets used to test the JLENS radars will be towed by non-military Lear-type jets instead of the F-16 fighter aircraft. The Small Manned Aerial Radar Target - Model 1 (SMART-1) aircraft would also be flown to simulate a target. The SMART-1 is a one-seat plane with a wing span of 17 feet and length of 12 feet (see Photo 1). The military uses the SMART-1 for system testing because of its small size, maneuverability, manned features, dependability, and economical operating costs. The Lear-type jet aircraft would be based at Michael Army Airfield (MAAF) and the SMART-1 would fly from airports at Wendover, Utah or Ely, Nevada. During JLENS testing, both aircraft would fly within existing restricted-use airspace and military operating areas where USAF aircraft currently fly.

2.1.2.3 Drones

The drones (unmanned aerial vehicles) used to test the JLENS radars will be launched from the south test site, fly within the cruise missile test operations flight corridor established by the USAF, and land in the aerial mission operating area on DPG as described in the 2007 Final EA. The flight altitude of the drones required for testing would be within existing restricted use airspace below 1,000 feet above ground level, which is a change from the altitude of above 1,000 feet analyzed in the 2007 Final EA. Updated testing forecasts indicate that while 30 drone flights (as analyzed in the 2007 Final EA) are planned, up to 50 flights may occur to test the JLENS system. These flights could begin in late FY 2011 and may extend through FY 2015.

The aerial path of the drones will be controlled from the USAF Trout Creek radar site. This "drone control site" (referred to as a relay station in the 2007 Final EA) consists of communications equipment in vans or a conex box (portable storage container) set up at the radar facility site. A mobile "drone communications relay station" (truck with radio communication equipment and antenna tower) would be set up on an existing public access road on the west side of the flight corridor (see Figure 2). The set up consists of parking a truck on a road, raising the radio antennas, and remaining at the location for the duration of the drone flight mission. The relay station would serve as backup communication in monitoring the drone flight path if the equipment at the control site loses communications with the drone due to varying topographic conditions in the corridor. When the location of the drone communications relay station is determined, the JLENS Program Office would coordinate with the management agency for the road (Juab County or BLM) for appropriate approvals for access and use.

2.1.2.4 Surface Atmospheric Measurement Station

A Surface Atmospheric Measurement Station (SAMS) would be installed on the UTTR-North Range approximately halfway between the two north test sites (see Figure 3). The SAMS would be installed on Diddle Knoll to collect meteorological data for JLENS testing. The SAMS is a 10-meter (approximately 33 feet) tall tower with several meteorological measuring devices and a red safety light attached. The tower would be anchored in a block of concrete (2 feet x 2 feet x 2 feet) buried in the ground. The tower would be supported by three guy-wires extending no more than 10 meters from the base of the tower. It would take approximately one week to install the SAMS. Other structures are located on Diddle Knoll thus a new road or road improvements would not be required for installation. The SAMS would be available for other uses after JLENS testing is finished. A representative SAMS is shown in Photo 2.

Photo 2. Surface Atmospheric Measurement Station

2.1.2.5 Intercept Missions

In addition to the 30 to 50 drone launches, there are six intercept missions planned over the aerial mission operating area on DPG. Up to five intercepts of the drones would be by a surface-based weapon system launched from the mission operations support area on the UTTR-South Range. The remaining live-fire intercept(s) would use a surface-based weapon system launched from the mission operations support area on DPG.

2.1.2.6 Ground Testing

Ground testing of the radar components would begin in early FY 2010 and occur over three to four months utilizing test equipment at and

around the north test sites. The planned testing would demonstrate and evaluate specific system equipment functions, performance, operations, and safety in the field environment. The planned test procedures require free space emission of radiofrequency (RF) electromagnetic energy within a limited spectral region and controlled power spectral density.

There would be RF sensors placed at various locations within the test area to ensure continuous monitoring of incident exposure levels and maintenance of safe operating conditions. Test periods would vary from a few minutes to a maximum of eight hours. Test conditions, including daily hours of operation, directional control, operating frequency, and power spectral density would be in accordance with restrictions and limitations mandated by the UTTR range control authority.

The early integration and test phase of the JLENS SuR and FCR in moored and elevated positions would occur for approximately six months from March through August 2010. Non-radiating testing would be conducted in the moored state to perform system functional checks prior to the elevated testing. Elevated testing consists of transmitting RF signals between antennas set up on the ground (i.e., emitter sites), or from transmitters carried in small aircraft, and the radars in the elevated aerostats. The minimum safe altitude of the aerostats would be 1,000 feet above ground level before full testing of the radars occurs to prevent exposure of JLENS personnel to unsafe radiation levels.

Multiple emitter site locations would be required to calibrate the radar systems from different directions and various distances. Emitter site locations must have a clear line of sight to the elevated aerostats at distances between 30 and 70 kilometers (approximately 20 to 45 miles) from the aerostats. To meet these directional and distance testing requirements, six emitter site locations have been identified (see Figure 1). Four of the emitter test sites would be on DoD property and two sites would be on public access roads.

The sites at Wendover Hill and Wig Mountain would be base sites for placing, operating, and storing equipment. Although the specific equipment to test the SuR varies slightly from the equipment to test the FCR, the overall testing concept is similar as described in this section. The equipment at the base sites would generally be a Radar Target/Jammer Simulator (RTJS) operated by the Army Research Laboratory, Survivability/Lethality Analysis Directorate (ARL/SLAD). The RTJS is a mobile RF repeater system containing equipment for RF signal reception and retransmission that generates simulated dynamic radar targets. The RTJS is normally configured as a fifth-wheel equipment trailer with two antenna trailers (see Photo 3). An alternate configuration has the RTJS equipment installed in a square box truck with a truck-mounted antenna mast and one antenna trailer. The antennas would extend approximately 35 feet high and the masts would be staked, as necessary, with three guy-wires extending outward from the trailer approximately 30 feet.

The equipment at Wendover Hill and Wig Mountain would operate from eight to ten hours per day of testing and remain in place for the duration of the test phase which is approximately six months. The RTJS system would operate from commercial electric power available at the sites. If electrical power is not adequate, a 35-kilowatt (kW) diesel generator would power the equipment. Diesel fuel would either be stored at the sites or a commercial vendor would be used for refueling the RTJS generator.

The equipment setup at the four other emitter sites (Oasis, Recycle Yard, Marblehead, and North Skull Valley) would consist of a commercial radio signal source and antenna mounted on a small trailer with a self-contained generator or a battery power source. The trailer can be pulled by a four-wheel drive truck. The maximum height of the antennas would be approximately 35 feet. Although all equipment used for testing the JLENS radars is mobile, for purposes of this discussion the equipment proposed to be used at these four test sites are referred to as “mobile emitters”. Examples of the mobile emitters are shown in Photo 4. For the two sites on non-DoD property (Marblehead and North Skull Valley) the mobile emitters would be set up on public access roads for the duration of a test (up to seven hours) and would be returned to the base site on USAF or DPG property after each test for refueling and storage. Equipment would not be left overnight on the public access roads. The mobile emitters set up on DoD property (Oasis and Recycle Yard) may remain in place intermittently or continuously during the test phase.

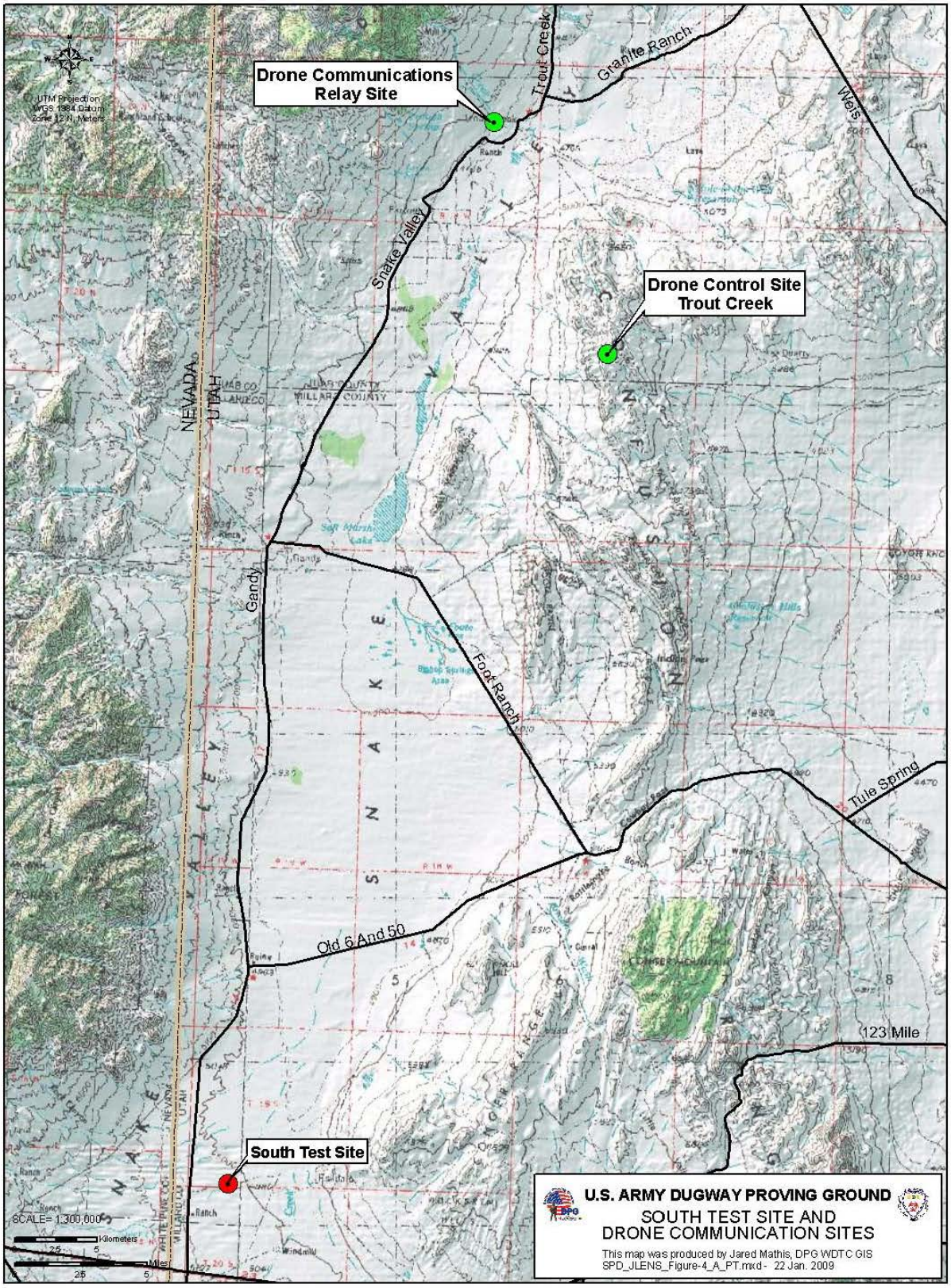

Figure 2. Location of Drone Control Site and Communications Relay System Site

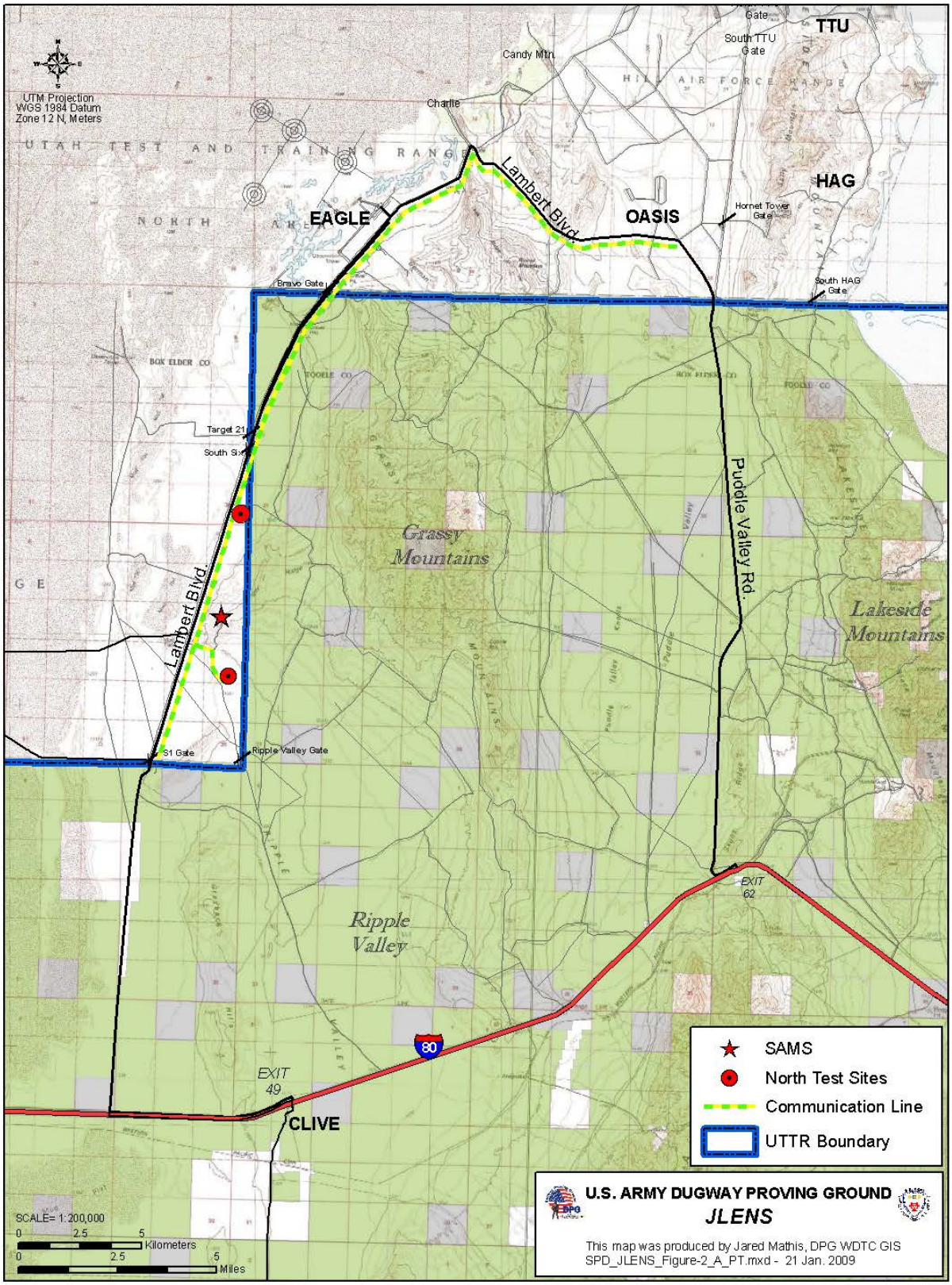

Figure 3. Location of SAMS and Communication Line to North Test Sites

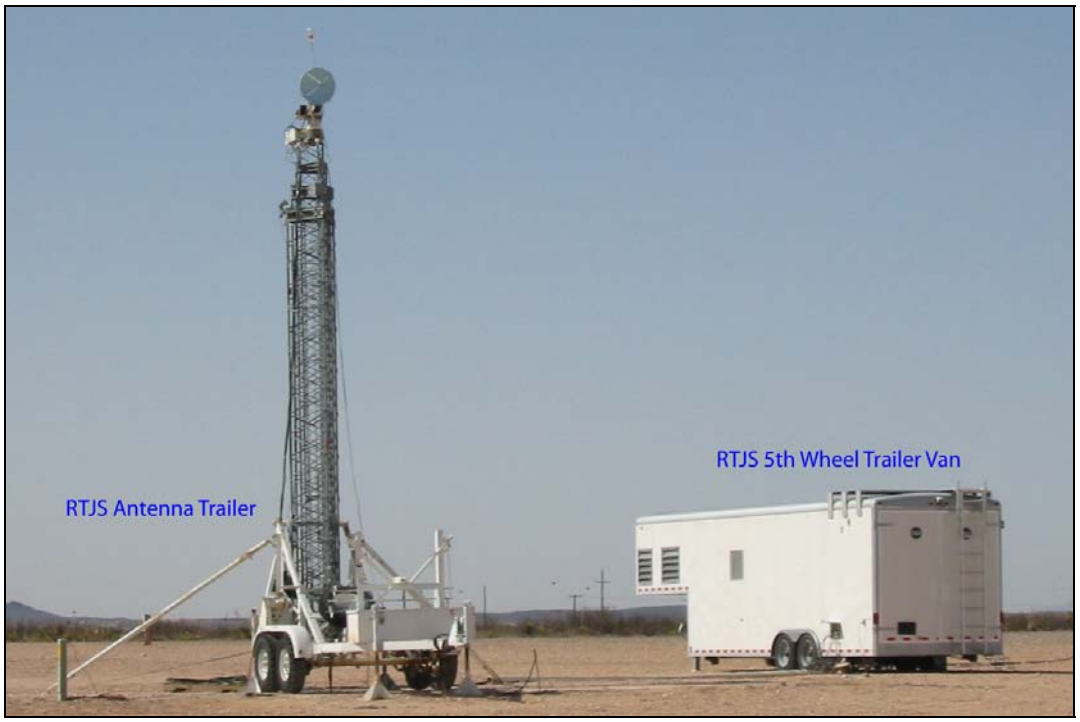

Photo 3. Proposed RTJS System Setup

Photo 4. Examples of Mobile Emitter Equipment

The mobile emitter test sites could be used daily or as few as one to two days per week during the six-month test phase. The JLENS Program Office would coordinate with the land management agency (Tooele County, SITLA, or DWR) for the public access roads at Marblehead and North Skull Valley for appropriate approvals for access and use.

The radars would also be tested by transmitting RF signals using aerial emitters. Equipment would be placed in small non-military aircraft (likely a single engine Cessna) that would orbit the elevated aerostats. By orbiting the aerostats, the required directional and distance testing requirements would be met with a clear line of sight between the emitter and the radars. A commercial service in the Salt Lake City vicinity would be contracted to supply the aircraft for the aerial emitter test flights.

2.1.3 North Test Sites

The north test sites have been constructed on the UTTR-North Range as described in the 2007 Final EA. The routing of the fiber-optic communications line serving the two sites has been changed and will now originate from an existing source on Oasis and be installed in existing right-of-way paralleling Lambert Boulevard (see Figure 3). A line adjacent to Puddle Valley Road from a distribution substation near Interstate 80 as described in the 2007 Final EA is no longer required and therefore will not be installed.

2.1.4 Target Support Buildings

The drone storage building planned for the Avery area on DPG is no longer required. The drone would be recovered after each test, flown back to the south test site by a helicopter based out of DPG, and stored in the building at the south test site until the next scheduled test flight. The towed targets will be maintained in a metal building to be constructed adjacent to the apron at MAAF as described in the 2007 Final EA. The siting of the towed target maintenance building has been changed and an existing building (Bldg 4062) at MAAF would have to be demolished to make room to construct the building in the revised location (see Figure 4).

2.1.5 South Test Site

The south test site is leased from Utah SITLA and facilities and safety zones will be constructed as described in the 2007 Final EA.

2.1.6 Mission Operations Support Areas

The mission operations support areas will be established on DPG and the UTTR-South Range as described in the 2007 Final EA. The simulated and live-fire missile intercepts of the drones would occur from these areas. The missile launchers are roughly the size of a tractor-trailer rig (see Photo 5) and a launch area approximately 600 feet by 200 feet would be needed to set up and fire the surface-based weapon systems. The areas on UTTR-South Range (TS-5) and DPG (Pad 10) have been previously disturbed by past activities; however, some ground leveling may be needed. A battalion headquarters consisting of fire and communication vehicles to support the surface-based weapon system missile launch would be set up at another existing nearby location on UTTR-South Range (TS-2). Grading of existing disturbed area may be necessary to create a level surface for the battalion headquarters.

2.1.7 Aerial Mission Operating Area

The aerial mission operating area will be used for the JLENS testing as described in the 2007 Final EA. Up to six live-fire missile intercepts of the drones would occur in this area. The missiles and the intercepted drones would break up upon contact and fall to the ground in this area.

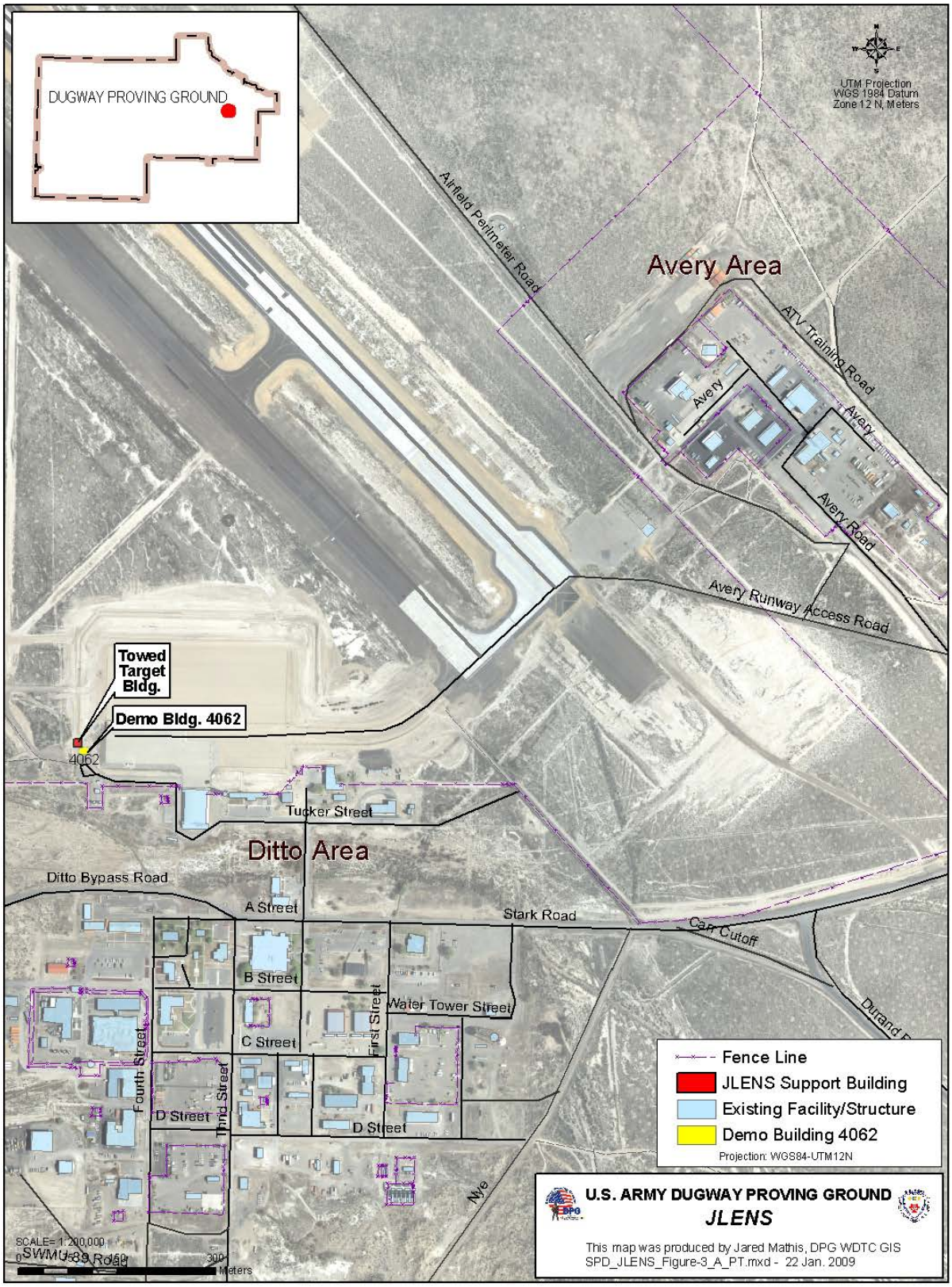

Figure 4. Location of Towed Target Maintenance Building at DPG

Photo 5. Typical Surface-based Weapon System

2.1.8 Personnel

Personnel requirements to support the JLENS testing are described in the 2007 Final EA.

2.2 NO ACTION ALTERNATIVE

The No Action Alternative for this Supplemental EA is to not implement the changes to the JLENS testing program, which include using SMART-1 aircraft as targets and Lear-type jets for towed targets, building demolition, operational and performance testing of radar components including mobile and aerial emitters, lower altitude drone flights, re-routing the fiber-optic communication line, installing the SAMS, and conducting up to six live-fire missile intercepts.

2.3 ALTERNATIVE LOCATIONS CONSIDERED AND ELIMINATED

No additional alternatives to the changes in the JLENS testing program are considered for this Supplemental EA.

CHAPTER 3
AFFECTED ENVIRONMENT

3.1 INTRODUCTION

The resource areas considered in the 2007 Final EA as context (baseline) for understanding the potential impacts of testing the JLENS system are listed in Table 3-1. Since completion of the 2007 Final EA, DPG has determined that some of these resource areas remain essentially unchanged, or are unlikely to be affected by the new information or by implementing the changes to the JLENS testing (i.e., Proposed Action). These unchanged resource area baseline conditions and impacts are hereby incorporated by reference into this Supplemental EA. The resource areas that have changed due to new available information and that may by impacted by the Proposed Action are discussed in this chapter and in Chapter 4 Environmental Consequences. Resource areas that have not changed but may be impacted by the Proposed Action are only discussed in Chapter 4. New resource areas (Safety, Energy Management) that were not previously analyzed in the 2007 Final EA have been added to this Supplemental EA to address the analysis of flight and ground safety and radar surveillance testing, and energy use and management.

Table 3-1. Resource Areas Affected by Proposed Action

Resource Area	Change to Resource Baseline		Potential Impact	
	Yes	No	Yes	No
Air Resources		X	X	
Geological Resources		X		X
Water Resources		X		X
Biological Resources	X		X	
Cultural Resources & Native American Concerns	X		X	
Hazardous Materials		X	X	
Solid and Hazardous Waste		X	X	
Airspace		X		X
Visual Resources		X		X
Transportation		X		X
Noise		X	X	
Socioeconomics		X		X
Environmental Justice		X		X
Land Use	X		X	
Range Management		X		X
Fire Management	X		X	
Safety	*		X	
Energy Management	*		X	
* Not analyzed in 2007 Final EA				

3.2 BIOLOGICAL RESOURCES

The vegetation communities and wildlife species in the JLENS testing areas are described in the 2007 Final EA. New information about biological resources on DPG and in the testing areas since completion of the Final EA is summarized in this section.

3.2.1 Migratory Birds, including Raptors and Eagles

The drones will fly in the cruise missile test operations flight corridor established by the USAF through Snake Valley. This corridor is part of the existing restricted-use airspace of the UTTR where the SMART-1 and Lear-type jet aircraft supporting the JLENS testing program will also fly. The Snake Valley is a known migratory corridor and contains roosting, nesting, and feeding habitat along the Gandy Salt Marsh, Leland Harris Spring, Bishop Springs, Fish

Springs National Wildlife Refuge, and surrounding mountain ranges for songbirds, shorebirds, waterfowl, raptors, and eagles. The Great Horned Owl (*Bubo virginianus)* and the Red-tailed Hawk (*Buteo jamaicensis)* do nest in the area of the JLENS proposed activities and are identified as avoidance areas on Figure 5.

The DPG Environmental Programs Office staff conducted raptor monitoring and nest surveys in February and May of 2008 throughout the drone flight corridor in Snake Valley from the south test site in Millard County to the aerial mission operating area on DPG. The monitoring and surveys followed protocols recommended by Hawk Watch International, Hawk Migration Association of North America, and Great Basin Bird Observatory. The monitoring and surveys were coordinated with the U.S. Fish and Wildlife Service (USFWS) at Fish Springs National Wildlife Refuge and included public and private land within the flight corridor. The February survey counted wintering raptors and documented nest presence and potential nesting habitat. The May survey documented active nests and breeding-season raptor observations. The surveys focused on tree and cliff habitats in relation to use by eagles, hawks, falcons, and owls. The results from these surveys are shown in Figure 5. Hawk Watch International, Raptor Inventory Nest Survey (sponsored by BLM), USFWS, and the Utah DWR were contacted for historic nest location data; however, no additional data were available for the Snake Valley area.

Surveys of Gandy Salt Marsh, Leland Harris Spring, and Bishop Springs were completed in September and October 2008 to note shorebird and waterfowl species composition and nesting habitat (see Figure 5). Surveys for nesting marsh birds will be conducted in 2009.

The Bonneville cutthroat trout (*Oncorhynchus clarki utah*) is a subspecies of the cutthroat trout and native to the tributaries of the Great Salt Lake. This trout is present within ponds in the project area and managed there for the Utah Division of Wildlife Resources for use in stocking the Deep Creek Mountain Range streams.

3.2.2 Threatened and Endangered Species

The DPG Environmental Programs Office requested information from the USFWS on presence of federally listed threatened and endangered species and critical habitat within the drone flight corridor in Snake Valley for preparation of this Supplemental EA (U.S. Army, 2008b). This request initiated informal consultation procedures in accordance with Sections 7(a)(2) and (c)(1) of the Endangered Species Act. The USFWS indicated the Ute ladies' tresses orchid (*Spiranthes diluvialis*), a threatened plant species is known to occur in Juab County but a population near the drone flight corridor is possibly extirpated (USFWS, 2008). The USFWS is undergoing a status review of the least chub (*Iotichthys phlegethontis*) to determine if the fish should be listed as threatened or endangered and if critical habitat should be designated. Populations of the fish are known to occur in the Leland Harris Spring, Gandy Salt Marsh, and Bishop Springs in Snake Valley.

3.2.3 Bird-Aircraft Strike Hazard

The USAF has developed a predictive Avian Hazard Advisory System (AHAS) to determine bird-aircraft strike hazards (BASH). The AHAS uses geographic information system (GIS) technology for analysis and correlation of bird habitat, migration, and breeding characteristics, combined with key environmental and man-made geospatial data. The AHAS is an internet accessible, near real-time GIS database used for bird strike risk flight planning to protect human lives and equipment during air operations. The AHAS monitors bird activity and forecasts bird strike risk using NEXRAD weather radars and models developed to predict bird movement. The AHAS was created to provide USAF pilots and flight scheduler/planners with a near real-time tool for making informed decisions when selecting flight routes.

Birds can be encountered at nearly all altitudes; however, most birds fly close to ground level and over 95 percent of bird strikes are reported below 3,000 feet above ground level. Bird strike danger is a concern within the vicinity of the Fish Springs National Wildlife Refuge; however, the drone flight corridor is located a good distance to the west of the

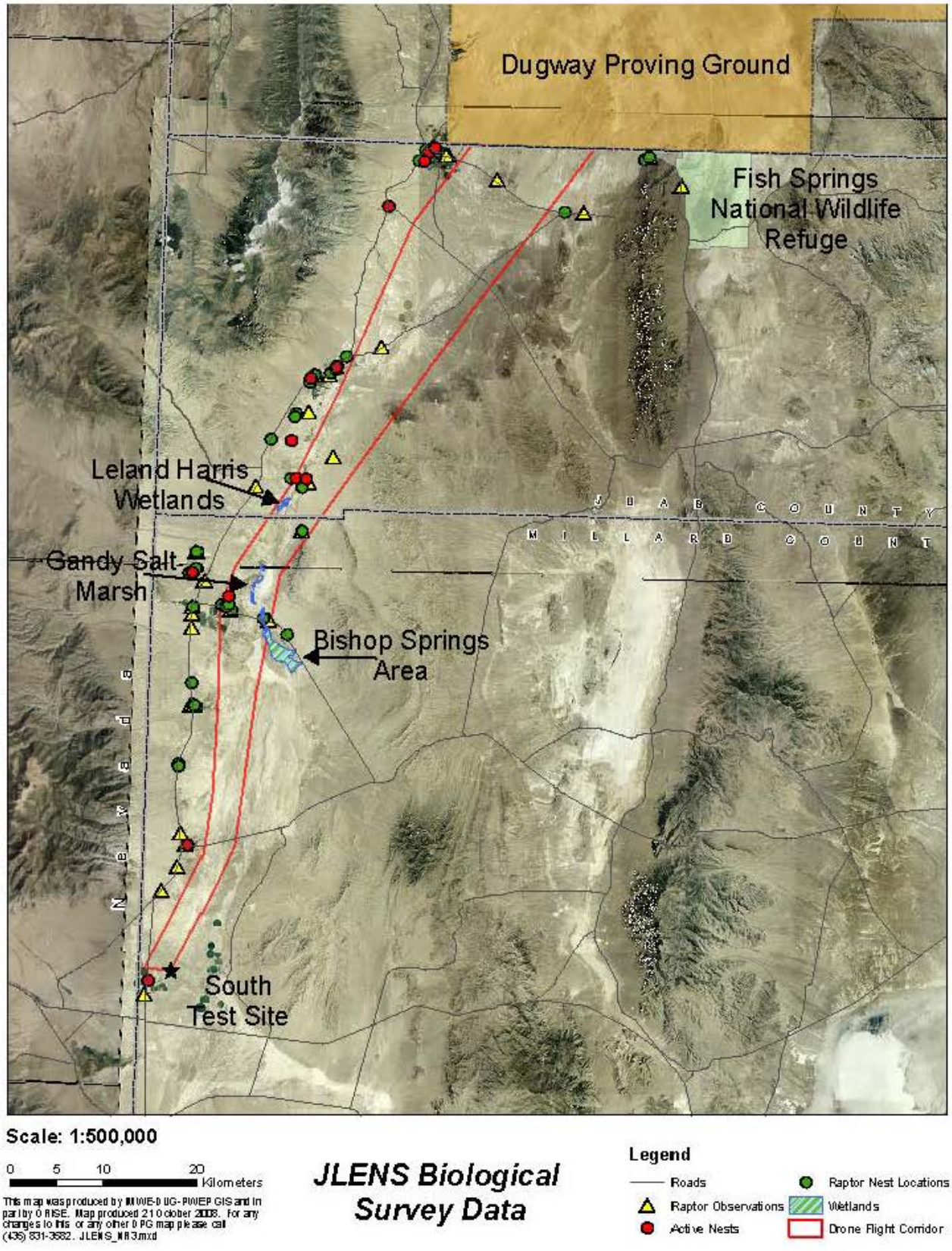

Figure 5. Results of Raptor Nest Surveys and Monitoring, 2008

refuge (see Figure 5). Flights into the UTTR from the south near the refuge are limited during the spring (February through March) and fall (September through October) migrations. Particular problems may arise where large birds, such as raptors, are funneled by topography so their concentrations are high along a narrow corridor or where large birds, such as waterfowl congregate in wetland areas from which they may arise en masse when startled.

Procedures at MAAF to minimize bird strike hazards include monitoring advisories issued by the Federal Aviation Administration (FAA) for the area and visual observations of the airfield. If birds are present in the area or can be observed on or near MAAF, the airfield manager notifies the supervisor of flying and air traffic control for the UTTR, and issues a NOTAM (Notices to Airmen) of the bird hazards. No bird hazard incidents have been recorded at MAAF for at least the past decade (Johnston, 2009).

3.3 CULTURAL RESOURCES AND NATIVE AMERICAN CONCERNS

Information on the archaeological (pre-historic) and historic resources and context of DPG and the project area was described in the 2007 Final EA. New information about cultural resources in the project area since completion of the Final EA is summarized in this section.

An unclassified literature review and an historical evaluation were completed for 54 World War II and Cold War Era military buildings and structures in the Ditto and Avery cantonment areas of DPG. The evaluation was completed to determine if the buildings and structures are eligible for listing on the National Register of Historic Places (NRHP). Building 4062 that is proposed for demolition to construct the towed target maintenance building near MAAF was included in this evaluation. Building 4062 was built in 1954 and was last identified in the real property records as an aircraft flammable materials storage shed. The building has been recommended by the architectural historian as not eligible for the NRHP because it does not meet any criteria for listing (Quist, 2008). The U.S. Army agreed with this recommendation and determined that Building 4062 is not eligible for listing on the NRHP and therefore is not an historic property in accordance with 36 CFR 800. The National Park Service has also agreed with this recommendation (see correspondence in Appendix A).

The area south of Goodyear Road and west of Granite Peak, which is the general location of the aerial mission operating area, has not been inventoried for cultural resources. The southwest corner of this area of DPG has moderate probability to contain cultural resources with smaller areas along the western and southern boundaries of DPG having a higher probability (U.S. Army, 2004). More than half of the aerial mission operating area will cover an area of lower probability of containing cultural resources.

3.4 LAND USE

The two base sites for the early integration and test phase of the JLENS SuR and FCR would be located at Wig Mountain which is located on DPG and at Wendover Hill which is USAF lease property near the Nevada-Utah state line (see Figure 1). Both sites are within the confines of DoD property or control and not accessible to the public. The Wendover Hill site is an existing USAF radar tower facility used for operations within the UTTR. The Wig Mountain site is part of a conventional munitions testing and artillery training area on DPG. Both sites have been previously disturbed from past or existing operations and training activities and facilities.

Sites proposed to set up the mobile emitters for use in the early integration and test phase of the JLENS radars would be located on DoD property at Oasis (UTTR-North Range) and the Recycle Yard (UTTR-South Range). These sites have been previously disturbed and are also within the confines of DoD property and not accessible to the public. Two other sites would be located off DoD property on public access gravel/dirt roads managed by Tooele County, SITLA, or DWR. One site (Marblehead) would be outside an abandoned cement plant north of Interstate 80 and the other site (North Skull Valley) would be either north or south of Interstate 80 near the intersection with State Route 196 (see Figure 1).

3.5 FIRE MANAGEMENT

Information on wildland fire management for DPG and USAF is described in the 2007 Final EA. New information about managing wild fires since completion of the Final EA is summarized in this section.

DPG has an Annual Operating Plan for Wildland Fire Management and Support and an Interagency Agreement for Wildland Fire Management and Support with the BLM, Salt Lake Field Office (U.S. Army, 2006 and 2008). This plan and agreement provide a method for coordinating, managing, and supporting wildland fire management and other emergency incidents.

The 75th Air Base Wing (75 ABW) of Hill Air Force Base (AFB) maintains a Wildland Fire Management Plan and also has fire suppression mutual aid agreements with the BLM Utah State Office, DPG, Tooele County/Wendover Airport and Wendover City, Utah, Wendover, Nevada, and Utah Highway Patrol Tooele Sector. The 75 ABW Fire Department averages five mutual aid wildland fire responses to off-base areas annually (USAF, 2007). In addition, the 75 ABW Fire Department provides crash response. Under current operations, the fire department is fully capable of meeting its requirements; there are no identified equipment shortfalls or limiting factors.

3.6 SAFETY

This section discusses ground and flight safety for test activities associated with the SMART-1 aircraft, drones, and ground-launched missiles. Ground safety includes activities associated with mishap response and ground test operations. Flight safety considers aircraft flight risks such as aircraft mishaps.

3.6.1 Flight Safety

Low-altitude avoidance and noise-sensitive areas are identified in flight instructions for various locations within and adjacent to the UTTR. Pilots are instructed to avoid these locations by horizontal and vertical distances to enhance flight safety, noise abatement, and environmental sensitivity. When flying, aircrews comply with FAA avoidance rules (14 CFR 91.119). Aircraft must avoid congested areas of a city, town, or settlement or any open-air assembly of people by 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet of the aircraft. Outside congested areas, aircraft must avoid persons, vessels, vehicles, or structures by 500 feet. The USAF completes an annual inventory of occupancy by location and has a map of all residences and occupied structures (see Figure 6). The U.S. Army and USAF currently avoid flying within one nautical mile of these residences and structures.

The SMART-1 aircraft has flown 326 sorties from 2004 through 2008 with a 99 percent reliability rate (Aerial Productions International, 2008). There is currently no reliability data available for the drone proposed as part of the JLENS testing. Similar drones have a loss rate of 1 for every 72 flights flown or 99 percent reliability (McCauley, 2007).

3.6.2 Ground Safety

The 75 ABW of Hill AFB maintains detailed mishap response plans and procedures to respond to a wide range of potential incidents. These plans assign agency responsibilities and prescribe functional activities necessary to react to major mishaps, whether on or off base. Response would normally occur in two phases. The initial response considers such factors as rescue, evacuation, fire suppression, safety, and ensuring security of the area, and other actions immediately necessary to prevent loss of life or further property damage. Subsequently, the investigation phase is accomplished. The initial response element consists of those personnel and agencies primarily responsible for beginning the initial phase. This element includes crash rescue personnel, medical personnel, security police, and crash recovery personnel. A subsequent response team is comprised of an array of organizations, whose participation is governed by the circumstances associated with the mishap, and actions required to be performed.

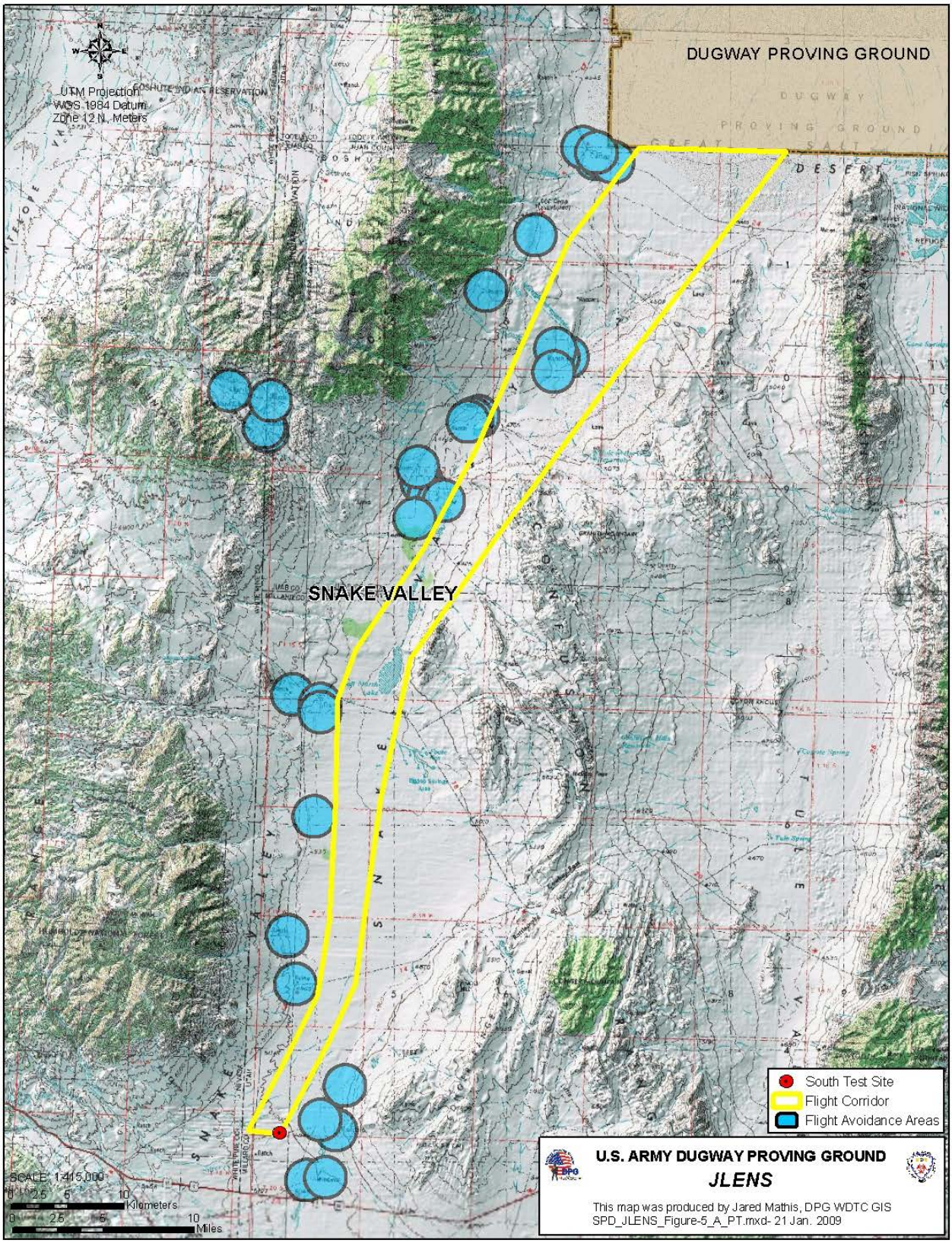

Figure 6. Location of Drone Flight Corridor and Avoidance Structures

3.6.3 Radiation Safety

Electromagnetic radiation consists of waves of electric and magnetic energy moving together (i.e., radiating) through space at the speed of light. Radio waves and microwaves emitted by transmitting antennas are one form of electromagnetic energy and are collectively referred to as "radiofrequency" or "RF" energy or radiation. Note that the term "radiation" does not mean radioactive. Radiofrequency (RF) energy is a type of non-ionizing radiation and is emitted from many sources, including cellular telephones. Other types of non-ionizing radiation include visible and infrared light. Potential sources of non-ionizing radiation encountered in missile tests include lasers and radars. Probably the most important use for RF energy is in providing telecommunications services. Other important non-communication uses of RF energy include radar use for military surveillance.

Exposure standards for RF energy have been developed by various organizations and countries. These standards recommend safe levels of exposure for both the general public and for workers. The DoD has officially adopted the exposure recommendations established by the American National Standards Institute/Institute of Electrical and Electronics Engineers for use in defining safe RF exposure conditions for personnel. The applicable DoD standard that provides required guidelines for permissible exposure limits of DoD personnel is DoD Instruction 6055.11, "Protection of DoD Personnel from Exposure to Radiofrequency Radiation," dated February 21, 1995. These exposure limits are designed for personnel working around and near emitters, but they also serve to protect the public who would be further away from the RF source.

3.7 ENERGY MANAGEMENT

Executive Order 13123, Greening the Government through Efficient Energy Management and the Energy Policy Act of 2005 direct federal agencies to decrease their energy consumption in daily operations and energy usage in federal buildings and laboratories. The U.S. Army has implemented policy to reduce energy consumption in accordance with these directives. The U.S. Army's energy management program goals and objectives include: 1) reduce greenhouse gas emissions; 2) reduce energy and water consumption; 3) expand renewable energy procurements; 4) reduce the use of petroleum products; and 5) decrease source energy use. Energy conservation measures target computer use, electrical use, heating and cooling, vehicles, and procurement.

CHAPTER 4
ENVIRONMENTAL CONSEQUENCES

4.1 INTRODUCTION

This chapter discusses the potential for significant impacts to the human environment as a result of incorporating the new information or implementing the changes to the JLENS testing program. As described in Section 3.1 and shown in Table 3-1, the resource areas that have changed due to new available information or that may by impacted by the Proposed Action are discussed in this chapter.

4.2 BIOLOGICAL RESOURCES

Proposed Action: The drone may affect migratory birds, raptors, and eagles that roost, nest, and feed in the flight corridor. Any impact is expected to be minimal because most of the nests are located outside the flight corridor (see Figure 5). Most nest locations are in proximity to residences, occupied structures, and abandoned homesteads in the flight avoidance areas (see Figure 6). Because drone flights will avoid these residences and occupied structures, any potential impacts to nesting birds will also be minimized. The elevation of the drone flights may affect migratory birds and particularly raptors and eagles that soar at higher elevations above ground surface; however, any impact would likely be insignificant because of the low number of drone flights planned and the time of year the flights would occur during the testing period.

The drone flights would not affect the marshes and wetlands throughout the corridor, including the shorebirds, waterfowl, amphibians, and fish that use these habitats. The reliability of the drones and SMART-1 aircraft render the chances of an unintentional landing or a mishap in these areas as negligible. The drones would not carry any hazardous materials that would contaminate wetlands or marshes on the extremely rare chance that a drone would land in these habitats.

There are no federally protected animal or plant species or critical habitat in the drone flight corridor, and therefore, changes to the JLENS testing program would not affect listed threatened or endangered species or designated critical habitat. No further consultation with the USFWS in accordance with Section 7 of the Endangered Species Act is necessary.

Most of the scheduled drone flights would occur outside the spring and fall migration seasons and nesting season, minimizing potential BASH impacts. Avoidance of birds is an important flight safety consideration. The potential for bird strikes can be reduced by avoiding areas of concentration such as Fish Springs National Wildlife Refuge or by adjusting the timing and altitude during migratory and breeding seasons. Because the drone flights would be limited and relatively infrequent, and bird concentration areas are generally avoided, the potential for adverse impacts is also limited.

Noise from missile launches may startle some wildlife species and cause flushing behavior in birds; however, this startle reaction would be of short duration. Studies indicate that birds which flush during sharp, loud noises return to normal behavior within a short time (U.S. Army, 1997). The locations of the proposed live-fire missile launches are not in areas of known bird concentrations and therefore potential impacts would be negligible.

Combustion of the rocket motors during the live-fire missile launches emits low levels of hydrogen chloride. However, low-level, short-term exposure to the amount of hydrogen chloride produced by the surface-based weapon system missile during flight testing activities is not expected to adversely affect wildlife (U.S. Army, 1997).

The SAMS proposed for installation on Diddle Knoll would be in the vicinity of a nesting pair of golden eagles. The height of the tower and the height and length of the guy-wires are not expected to create a hazard to golden eagles

or other raptors in flight. The USFWS recommends guidelines to reduce avian mortality from towers greater than 199 feet above ground level, including daytime visual markers (i.e., bird diverter devices) on guy-wires to prevent collisions and white (preferable) or red strobe lights instead of solid lights, if acceptable for aviation safety (USFWS, 2000). Although the height of the SAMS (approximately 33 feet) would generally exclude it from these guidelines, appropriate measures would be taken, as necessary, to avoid any potential impact to the nesting pair of golden eagles. Installation of the SAMS would occur after the nesting season and any young eagles have fledged the nest to avoid impacts.

Antennas used for the early integration and test phases of the JLENS SuR and FCR would not likely create suitable nest sites or roost perches for raptors. The presence of human activity around the antennas would likely deter raptors from remaining at the location for any length of time should a raptor perch on an antenna. The RF emissions would not likely impact terrestrial or avian species of wildlife. The aerostats would be elevated at least 1,000 feet above ground level before full power during the radar testing, which is generally above the soaring elevation of birds. Some species have temperature regulation capabilities for increased body heat but any temperature increase due to RF emissions would likely cause wildlife in the area of the radars and emitters to move away from the source.

No Action Alternative: If the changes to the JLENS testing do not occur, impacts to biological resources would be as analyzed in the 2007 Final EA.

Mitigation: To minimize the potential impacts to nesting or roosting raptors and eagles, areas of known habitat will be monitored during drone flights and installation of the SAMS on Diddle Knoll will occur outside the breeding and nesting season. Two more seasons of raptor surveys following appropriate survey protocols will be completed in 2009 and 2010 by DPG Environmental Programs Office staff to build the dataset of active nest locations and bird observations, and to identify habitat areas of concern. As agreed to by the USFWS, the DPG Environmental Programs Office staff will monitor different habitat areas during five of the first eight drone flights within the first year of testing (Knight, 2008). The flights may be selected based on seasonal activity and will ascertain response of waterfowl and raptors to low-flying drones. The path of the drone will be programmed towards the east side of the corridor as much as possible to avoid known nest locations and surface water sources that support shorebird and waterfowl habitat if a planned drone flight occurs during peak nesting season. In the unlikely chance that an antenna of the RTJS or mobile emitters becomes a nest location for a raptor, the DPG Environmental Program Office staff will be contacted to appropriately address the concern prior to lowering the antenna. Bird diverter devices will be added to the guy-wires on the SAMS if determined necessary after final design of tower height and guy-wires.

4.3 CULTURAL RESOURCES AND NATIVE AMERICAN CONCERNS

Proposed Action: The U.S. Army determined that Building 4062 is not eligible for listing on the NRHP and therefore demolition of the building would not affect an historic property. As the lead federal agency, the DPG Commander has consulted with the Utah State Historic Preservation Officer (SHPO) on his determination of affect to historic properties in accordance with Section 106 of the National Historic Preservation Act (see Appendix A for consultation correspondence).

Diddle Knoll on the UTTR-North Range has been previously inventoried by the USAF for cultural resources. There are no historic properties; therefore, the installation of the SAMS would have no affect to cultural resources.

Pre-historic and historic features likely exist in the southwest corner and along the southern edge of the aerial mission operating area on DPG. The impact caused by falling debris from the drone/missile intercept may affect unknown historic properties; however, only six or less live-fire intercepts would occur and a large portion of the area has a low probability of containing cultural resources, and therefore, the risk of affecting unknown historic properties would be minimal. If some remnants of the drones and missiles must be retrieved from the target impact area, the standard operating procedures to retrieve intact drones would be followed to retrieve the remnants. These procedures include use of helicopters and tracked vehicles to minimize ground disturbance and the potential risk of impact-

ing unknown historic properties. Cultural resources staff would review the area where remnants are retrieved for potential effects to historic properties.

Less ground disturbance would occur because the length of the fiber-optic communications line route has decreased. However, no historic properties were identified along this route. New surface disturbance would not be necessary in the mission operations support areas on DPG and UTTR-South Range, thereby minimizing the potential for impacting unknown archaeological or historic features.

The DPG Commander initiated nation-to-nation consultation with the Native American tribes for their assistance in determining if any sites of concern may be affected by the changes to the JLENS testing activities, particularly the live-fire ground-launched missile intercept of the drone (see Section 5). Because the firing of missiles for testing programs is not a new activity in the area, the potential for impacts to traditional or sacred sites is expected to be minimal.

No Action Alternative: If the changes to the JLENS testing do not occur, impacts to cultural resources would be as analyzed in the 2007 Final EA.

Mitigation: If the change in JLENS testing cannot avoid impacting cultural resources, then steps described in the 2007 Final EA will be followed to address and appropriately treat the resource. These steps include having an archaeological monitor present at the mission operations support area on UTTR-South Range (TS-5) should ground disturbance in previously undisturbed areas be necessary to accommodate the missile launchers.

4.4 LAND USE

Proposed Action: No ground disturbance would occur as part of the early integration and test phase of the JLENS at any of the six proposed test sites. Use of land at the base and mobile test sites, with the exception of Marblehead and North Skull Valley, would occur within the confines of the UTTR and on DPG where land use is designated for air-to-air operations, air-to-surface operations, visual and radar bombing, and tactical maneuvers to test equipment and train personnel. This test phase of JLENS is consistent with the operations in the UTTR and DPG and would not impact land use. The JLENS Program Office would coordinate with the appropriate land managing agency (Tooele County and SITLA or DWR) regarding JLENS requirements for any approvals or temporary use permit at Marblehead and North Skull Valley.

No Action Alternative: If the changes to the JLENS testing do not occur, impacts to land use would be as analyzed in the 2007 Final EA.

Mitigation: The JLENS Program Office would comply with any land use restrictions that may be imposed by Tooele County, SITLA, or DWR should approvals or temporary use permits be required to use the public access roads at Marblehead and North Skull Valley.

4.5 FIRE MANAGEMENT

Proposed Action: A Memorandum of Understanding (MOU) would be executed between DPG and the Fillmore Field Office of the BLM for wildland fire management at the south test site and adjacent area in Millard County. Implementation of the fire management MOU would help reduce the spread of fire by specifying response protocols and responsibilities. The MOU would specify that DPG notify BLM two weeks in advance of the drone launches. An inspection of the site by a representative of the Utah State Fire Marshall may be completed prior to the first launch and annually thereafter.

Although unlikely, the rocket-assisted take-off (RATO) motor used to launch the drone creates a fire hazard concern. The RATO motor will be used because there is no runway available for the drone at the south test site. The drone

will use a RATO motor that includes a launcher, rocket bottle with initiator, cables, and launch control boxes. The motor produces a cloud of smoke at launch and takes several seconds to lift the drone and accelerate it to the required velocity. The RATO bottle separates from the drone after several hundred yards. The RATO bottle is considered a Class B explosive which is defined by the U.S. Department of Transportation as "Possessing flammable hazard, such as propellant explosives (including some smokeless propellants), photographic flash powders, and some special fireworks". The RATO bottle contains solid rocket fuel so there would be no spills on the ground. Any solid rocket fuel remaining in the RATO bottle would be recovered and recycled as described in the 2007 Final EA.

If a mishap were to occur, air quality impacts might increase slightly, especially if there were a fire in association with a crash. The fire itself would cause an increase in airborne chemicals and particulates, as would rapid response ground and air vehicles from their exhaust and particulate dispersal. Although unlikely, should missile debris impacts accidentally ignite a wildfire, large areas of natural vegetation could burn. With appropriate fire management and prevention measures, and having the appropriate fire departments on standby during testing, potential impacts from implementation of the proposed action would not be significant.

No Action Alternative: If the changes to the JLENS testing do not occur, impacts to fire management would be as analyzed in the 2007 Final EA.

Mitigation: Adherence to standard operating procedures regarding fire management would be required. As stated in the 2007 Final EA, an area 1,600 feet wide by 3,000 feet long in front of the launch area at the south test site will be mowed to prevent fires and fire suppression equipment will be located at the JLENS test sites during operations, as necessary, based on prevailing fire conditions.

4.6 SAFETY

Proposed Action: Air collisions of the SMART-1, Lear-type jet aircraft, or drone with other aircraft would be an extremely low probability event because the aircraft would be separated by distance or altitude according to Air Force safety regulations for operating in military airspace to prevent collisions. The reliability rates of 99 percent for the SMART-1 and drone are almost flawless and therefore impacts to safety of people within the flight corridor from a potential crash would be negligible. Falling debris from the impact of the missile with the drone would have little likelihood of harming anyone because it would occur in the area of DPG designated for this purpose. The aerial mission operating area on DPG would be marked with warning signs, barriers, and/or guards to keep unauthorized people away during the live-fire missile intercepts.

Existing safety operation manuals and procedures for missile testing would be followed to minimize any risk to personnel health and safety. All missile transportation, storage, fueling, flight plans, trajectories, and debris impact areas would be approved by the respective U.S. Army and USAF Safety Offices. Electromagnetic radiation hazard personnel exclusion zones would be established to minimize the potential for exposure of workers. Launch hazard areas and launch control locations would be approved by the Safety Offices, from which all non-mission-essential personnel would be excluded, to ensure the safety of all personnel.

An analysis of the radiation exposure levels from RF energy associated with the ground testing of the surveillance radar and aerostat equipment, mobile emitters, and missile tests found that exposure levels occurring outside of the test site perimeter boundaries would not exceed acceptable levels (Raytheon, 2008). Safe areas have been identified within the test site perimeter where personnel would be located during the test. An Electromagnetic Energy Exposure Control Plan would be prepared to ensure safe operation and personnel safety during the test procedures. The RF exposure levels resulting from these test activities have been modeled by Raytheon to evaluate potential hazards. The expected energy level occurring within the boundaries of the test site perimeters do not exceed the maximum permissible exposure limits.

Proposed missile activities present no significant impacts from ionizing (radioactive) or non-ionizing sources of radiation. Activities involving sources of radiation would comply with rules and regulations outlined by the U.S. Nuclear Regulatory Commission and the Army Radiation Safety Program (Army Regulation 385-10 and Department of the Army Pamphlet 385-24). Personnel would comply with safety procedures and safety zones would be established and clearly delineated to exclude entry from hazardous radiation.

Early integration testing of the JLENS radars would involve RF emissions. The RF radiation levels would not be of sufficient power to pose any significant hazards that would require special precautions to prevent public access proximate to the emitter equipment (Raytheon, 2008). The radar would remain active for only a brief duration during launch and flight for testing. The aerostats would be elevated to at least 1,000 feet above ground level before full power testing to ensure personnel are not exposed to unsafe radiation levels. Protective equipment for DoD personnel would not be required because there would be no radiation hazards above safe levels.

No Action Alternative: If the changes to the JLENS testing do not occur, there would be no new or additional impacts to the safety of DoD personnel or the public from RF radiation. Impacts to safety from flight activities would be as analyzed in the 2007 Final EA.

Mitigation: No mitigation measures are necessary or recommended.

4.7 ENERGY MANAGEMENT

Proposed Action: Increasing concentrations of greenhouse gases in the atmosphere have the potential to cause climate change. The administrative use of vehicles, aircraft, and other energy-consuming equipment is monitored by the U.S. Army for abuse and unnecessary use beyond that needed to maintain readiness. Engines would be turned off when vehicles are parked unless maintenance operations require the engine to be running. Generators at the test sites would only be used for the duration of the test and be turned off when not in use. Energy consumption to construct and test the JLENS system would not be considered excessive for the program.

No Action Alternative: If the changes to the JLENS testing do not occur then energy use would not change from existing conditions.

Mitigation: To minimize energy consumption and greenhouse gas emissions, construction materials would be procured from within or close to the project area as practicable to reduce fuel use from transporting materials. Contractors would be requested to use appropriately-sized equipment for construction and maintain construction equipment and haul trucks in good working order so fuel efficiency is maximized.

4.8 AIR RESOURCES

Proposed Action: Emissions from the launches of the surface-based weapon systems missiles would have a negligible, localized impact on air quality. Pollutants would be emitted from the generators running the missile launchers and from the combustion of the rocket motors. The various materials in the exhaust gases would not generate a risk during testing because high concentrations would not occur or accumulate due to a wide dispersion area, the remote outdoor testing locations, and dispersal of emissions by ambient wind conditions. Missiles are currently or have been tested in these areas on DPG and UTTR-South Range and thus no new emission sources would be introduced. Long-term effects would not occur because there would only be up to six missile launches for the JLENS testing program and the launches would not occur concurrently or sequentially.

The diesel generators that power the surface-based weapon launch system emit carbon monoxide, nitrogen oxides, sulfur oxides, particulates, and hydrocarbons. The amount of emissions varies from less than one pound of sulfur oxides per hour of operation to slightly more than 14 pounds of nitrogen oxides per hour (U.S. Army, 1997). For comparison, these amounts are well below the emission thresholds (measured in tons per year) set by Environmental

Protection Agency (EPA) regulations (40 CFR 52.21) for a new or modified stationary emission source at an existing major source facility (i.e., DPG) for prevention of significant deterioration of air quality. Because it is anticipated that the generators would run intermittently for a few hours per test, and because of favorable wind conditions (average 5 to 10 miles per hour) that exist, no substantial impact to air quality from generator use is expected.

Launch operations constitute a source of uncontrolled emissions of aluminum oxide, carbon monoxide, carbon dioxide, hydrogen, hydrogen chloride, nitrogen, and water into the atmosphere. These emissions are generated in the ground cloud at lift-off and along the launch trajectory as a consequence of the combustion of the solid rocket motor. Combustion products defined as criteria pollutants by the National Ambient Air Quality Standards would include carbon monoxide and aluminum oxide which is classified as a particulate matter. Hydrogen chloride would be the most important non-criteria pollutant emitted during combustion.

Air quality modeling for deployment of the surface-based weapon system determined that due to the short burn time for the motor (5 seconds) and the small amounts of exhaust products, average concentrations of aluminum oxide, carbon monoxide, carbon dioxide, and hydrogen chloride would be well below the EPA 8-hour threshold limit values for concentrations to which an average person can be repeatedly exposed without adverse effects (U.S. Army, 1997).

Since the launch hazard area would be cleared of personnel and the public, no substantial air quality impacts are expected and there would be no exposure to concentrations of pollutants greater than the appropriate health-based guideline values. The favorable wind conditions at UTTR and DPG would disperse combustion products over large areas. In terms of local impacts, missile launches are air pollution sources that are brief and discrete events in time. Air pollutants do not accumulate because winds effectively disperse them between launches, assuming sufficient time occurs between launches.

Air emissions from aircraft sorties with towed targets would be less with use of Lear-type jet aircraft instead of the F-16 aircraft as originally planned. However, any beneficial impact from fewer emissions would be negligible because of the number of annual sorties for JLENS testing compared with annual activity in UTTR airspace.

The release of helium to the atmosphere when deflating the aerostats and from normal loss through the aerostats membranes would not impact any ambient air quality standard. Helium is colorless, odorless, and non-flammable, and is not an ozone-depleting chemical or greenhouse gas.

No Action Alternative: If the changes to the JLENS testing do not occur, air quality impacts would be as analyzed in the 2007 Final EA.

Mitigation: No mitigation measures are necessary or suggested.

4.9 HAZARDOUS MATERIALS

Proposed Action: Helium does not contain any Class I or Class II ozone depleting chemicals (40 CFR Part 82) and is not a greenhouse gas. The main danger of helium is that of asphyxiation if a large volume of helium is released suddenly into a small space. Since the aerostats would be filled outdoors, the risk of asphyxiation is negligible. Safety procedures would be in place to ensure that personnel operating the high pressure cylinders are fully trained in the handling and use of regulators, and would wear appropriate safety apparel to prevent injury when handling helium. Helium cylinders stored at the north test sites would have adequate ventilation and be protected against damage. No adverse human or environmental effects are expected.

The live-fire missile intercepts of target drones by the surface-based weapon systems would represent only a small increase in the total usage of hazardous materials with no notable change in the types of materials currently handled and stored by DPG and the USAF. Hazardous substances used by or contained within the missile components include solvents, solid propellants, aluminum-beryllium, and lithium thermal batteries. Hazardous materials associated

with the missiles would be stored and handled in compliance with procedures described in Material Safety Data Sheets and safety measures required by the DoD and the Department of Transportation for transporting explosives. Lithium batteries used in the missiles could be fragmented by warhead detonation. Lithium tends to remain in a dissolved state following weathering but is not considered detrimental to water quality (U.S. Army, 2000). The existing hazardous materials storage and handling capabilities are adequate to safely store and handle these materials in accordance with applicable regulations and U.S. Army and USAF procedures, and therefore, no impacts are anticipated.

Maintenance activities for the SMART-1 and Lear-type aircraft that may utilize hazardous materials would occur at the private contractor facilities for these aircraft. If necessary, some maintenance may occur at MAAF. Any hazardous material use and storage would be in accordance with DPG hazardous material management plans and spill contingency plans. Storage and handling of hazardous materials required for drone maintenance activities would not change but occur at the south test site.

If a commercial electrical power source is not available or is inadequate, diesel fuel for operating generators for the RTJS and mobile emitters would be stored at the base locations at Wendover Hill on USAF lease property and Wig Mountain on DPG. The storage tanks would either be double-walled or impervious berms would be constructed around the tanks for secondary containment. Fuel would be stored in accordance with federal, state, and USAF and DPG regulatory requirements to preclude spills or releases to the environment. Refueling the tanks and equipment would follow procedures described in approved spill prevention plans. No impacts are anticipated.

No Action Alternative: If the changes to the JLENS testing do not occur, impacts to and from hazardous materials would be as analyzed in the 2007 Final EA.

Mitigation: The JLENS Program Office will research options to safely and economically recycle the helium from the aerostats.

4.10 SOLID AND HAZARDOUS WASTE

Proposed Action: Limited amounts of hazardous waste may be generated by the live-fire, ground-launched missile intercepts of target drones. The types of waste may include solvents, lubricants, or hydraulic fluids used in maintaining and firing the ground-launchers. The anticipated increase in hazardous wastes would not represent a substantial increase in the total quantities of similar wastes generated by the U.S. Army and USAF and disposed of by each installation. All collection, accumulation, and disposal procedures would be performed in accordance with established hazardous waste management procedures at each installation. During successful missile intercepts, it is expected that missile components and debris would impact in designated areas. The materials that would be disposed of as hazardous waste from live-fires and intercepts would include structural materials and lithium thermal batteries.

Debris from the demolition of Building 4062 would be salvaged or disposed in a landfill that accepts construction debris. The building does not contain asbestos or lead-based paint. Because the building is less than 500 square feet, the debris would not be of an amount that would have a significant impact on solid waste disposal or landfill capacity.

No Action Alternative: If the changes to the JLENS testing do not occur, impacts from solid and hazardous waste generation would be as analyzed in the 2007 Final EA.

Mitigation: No mitigation measures are necessary or required.

4.11 NOISE

Proposed Action: Noise levels of about 60 to 70 single event level (SEL) from normal training activities in the UTTR have been documented. Noise effects could result from missile launches and portable generators used during

launches. The surface-based weapon system missile would produce a maximum noise level greater than 115 decibels (dB) within approximately 100 meters (328 feet) of the launch site. A missile itself does not generate a noise signature comparable to current generation tactical aircraft; therefore, noise impacts expected during the launch would not be significant. Exposure to 115 dB for the time involved in a missile launch is less than 0.4 percent of the daily exposure permitted by the Occupational Safety and Health Administration (U.S. Army, 1997). During missile launches, only personnel sheltered in protective structures and wearing protective hearing devices would be inside the launch hazard area. Safety zones and hazardous noise areas (greater than 85 dBA) would be established using noise level meters, and warning signs would be posted to reduce exposure risk (U.S. Army, 2000). Noise levels outside the launch hazard area would be below regulatory requirements for hearing protection.

The Lear-type jet aircraft used for towing targets and the SMART-1 would both emit less noise than the F-16 aircraft previously planned to tow targets. The flight path of the drone would avoid residences and occupied structures in Snake Valley by a minimum of one nautical mile thereby minimizing impacts on occupants from aircraft noise.

In the unlikely event that a mishap were to occur, noise might briefly increase, especially if a crash were involved. Air and ground vehicles responding to the crash might also increase transitory noise levels in the immediate area.

No Action Alternative: If the changes to the JLENS testing do not occur, impacts from noise would be as analyzed in the 2007 Final EA.

Mitigation: No mitigation measures are necessary or required.

4.12 CUMULATIVE IMPACTS

Cumulative impacts resulting from the JLENS testing program are as described in the 2007 Final EA. New information and changes to the JLENS testing may have incremental impact on the following resources.

Noise from demolition activities on DPG would occur for less than 30 days and would not be significantly greater than ambient noise levels. Noise impacts from the missile launches would be minimal considering the infrequent launches (up to six) for the JLENS testing program and the background noise of daily training operations in the UTTR and on DPG. During the time that the missile tests are scheduled there would be a reduction in noise as other ongoing operations with the UTTR would not occur in the same area. The SMART-1 and Lear-type jet towing aircraft would contribute less cumulatively to the ambient noise environment because these aircraft are much quieter than the F-16 operating within the airspace. The missile tests and building demolition do not contribute substantively to cumulative impacts.

Air emissions from on-going USAF and Army training activities, aircraft, and missile testing would continue to be generated and dispersed. No cumulative impacts to air quality are expected because of the limited number of missile tests and the rapid dispersion of exhaust products. Emissions from demolition of one building and up to six additional missile launches would dissipate over the large project area. No cumulative impacts from the change in JLENS testing are anticipated.

The use of helium to fill the aerostats would contribute to a cumulative impact with other current uses on DPG and UTTR. The magnitude of any impact would depend on the capacity of local vendors to supply the amount of helium gas needed to fill and maintain the aerostats during the test phase. No new hazardous materials would be introduced and the quantities generated would be similar to those discussed in the 2007 Final EA.

The relative infrequent activity within the drone flight corridor would not contribute to a cumulative impact on biological resources, particularly migratory birds, raptors, and eagles in the Snake Valley. The missile launches would occur in areas currently disturbed by weapons testing activities and no cumulative impacts to biological resources are expected.

Demolition of one building that is not eligible for listing on the NRHP would not contribute cumulatively to the loss or alteration of the historic importance of DPG. Missile intercepts would occur over an area on DPG used for other military training and testing activities. The potential for cumulative impacts to cultural resources in this area would be minimal because most of the area has a low to moderate probability of containing cultural resources. Because only six missile intercepts would occur over approximately three years, cumulative impacts with other ongoing conventional weapons training occurring in the same area would not be significant.

The introduction of RF emissions into the project area from JLENS testing activities and the short duration of the testing that generates RF energy would not create a significant cumulative increase in RF radiation with other sources in the area such as aircraft radars and communication and microwave towers.

The fiber-optic communications line installed on DPG for mission requirements would also be used to support JLENS. The installation would not have a cumulative impact to soils because the location is an existing communications right-of-way.

4.13 RELATIONSHIP BETWEEN SHORT-TERM USES OF THE ENVIRONMENT AND LONG-TERM PRODUCTIVITY

The short-term uses of the environment by the JLENS testing program in relation to long-term productivity are as described in the 2007 Final EA.

4.14 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The irretrievable commitment of resources during the operation phase of the testing would include the consumption of fossil fuels used to run generators at the test sites for power and helium to fill the aerostats. Energy would also be expended in the form of diesel fuel, gasoline, and oil for construction equipment and transportation vehicles. Irreversible and irretrievable commitments of other resources are as described in the 2007 Final EA and Section 107 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S. Code 9607(f)(1)).

CHAPTER 5
CONSULTATION AND COORDINATION

The WDTC-Special Programs Division (SPD) conducted public outreach to local city and county governments, civic organizations, federal and state agencies, and Native American tribes as described in the 2007 Final EA.

The U.S. Army DPG conducted additional public outreach about the JLENS testing after the FNSI was signed on September 27, 2007. The outreach included briefings and public meetings with the communities in the Snake Valley area of Utah that are near the flight corridor of the drones. The briefings included videos and slide presentations about the JLENS program, and the testing that is scheduled to begin in FY 2010. Participants at the meetings were encouraged to ask questions to which the JLENS Program Office provided answers. The following meetings have been held since the FNSI was signed:

Date	Location	Participants
March 10, 2008	Partoun, Juab County, West Desert School	15
June 24, 2008	Eskdale, Millard County, Auditorium	10
June 24, 2008	Partoun, Juab County, West Desert School	5
November 6, 2008	Calao, Tooele County, Elementary School	20

The Cultural Resources Management Officer (CRMO) represented DPG in coordinating with the SHPO regarding cultural resources issues in accordance with Section 106 of the National Historic Preservation Act. The DPG Commander initiated consultation with the SHPO on the Army's determination of no historic properties affected by the changes to the JLENS testing program. Concurrence was received and is included in Appendix A.

The CRMO and DPG Commander initiated nation-to-nation consultation with Native American tribes for the changes to the JLENS testing program. Letters dated July 21, 2009, along with a copy of the Draft Supplemental EA were sent to the following tribes and tribal organizations for review and comment: No comments were received.

- Arapaho Tribe of the Wind River Reservation
- Blackfeet Tribe
- Confederated Salish & Kootenai Tribes of the Flathead Reservation
- Goshute Tribe
- Crow Tribe
- Hopi Tribe
- Navajo Nation
- Northwestern Band of Shoshone Nation
- Paiute Indian Tribe of Utah (Cedar City Band, Kanosh Band, Koosharem Band, Indian Peaks Band, Shivwits Band)
- Pueblo of Zuni (Zuni Tribe)
- San Juan Southern Paiute Tribe
- Shoshone-Bannock Tribes of the Fort Hall Reservation
- Shoshone-Paiute Tribes of the Duck Valley Reservation
- Shoshone Tribe of the Wind River Reservation (Eastern Shoshone Business Council)
- Skull Valley Band of Goshute Indians
- Te-Moak Tribe of Western Shoshone (Battle Mountain Band; Elko Band; South Fork Band; Wells Indian Colony Band)
- Ute Indians of the Uintah and Ouray Reservation
- Ute Mountain Tribe of the Ute Mountain Reservation
- White Mesa Ute Council

Program staff and resources specialists from DPG, USAF, and other agencies and organizations were coordinated and consulted with to obtain data and information in the preparation of this Supplemental EA. The following people and organizations were contacted:

West Desert Test Center – Environmental Technology Office
Michael Robinson

West Desert Test Center – Special Programs Division
Christopher Johnson, P.E.

Dugway Proving Ground – Directorate of Environmental Programs
Robbie Knight
Rachel Quist

75th Civil Engineering Group – Hill AFB
Loni Johnson, CERC
Kay Winn, CEVOR

75th Civil Engineering Group – Oasis
Ronald Short

388th Range Squadron – Hill AFB
Kathy Vaux
James Bishop

U.S. Bureau of Land Management
Tom Suwyn, Zone Fire Management Officer, Fillmore Field Office
Kim Soper, Central Utah Interagency Fire Management Officer, Richfield Field Office
Traci Allen, Wildlife Biologist, Salt Lake City Field Office

U.S. Fish and Wildlife Services
Jay Banta, Fish Springs National Wildlife Refuge
Betsy Herrmann, Utah Field Office
Nathan L. Darnall, Utah Field Office

A public notice was published in the Dugway Dispatch (DPG paper), Hilltop Times (Hill AFB paper), Ogden Standard Examiner, Tooele Transcript Bulletin, Wendover Times, Ely Times, Salt Lake Deseret News, and Salt Lake Tribune announcing the availability of the Draft Supplemental EA and draft FNSI for a 30-day public review. Copies of the Draft Supplemental EA and draft FNSI were placed in the following libraries:

- University of Utah Marriott Library, 295 South 1500 East, Salt Lake City, Utah
- Tooele Public Library, 128 West Vine, Tooele, Utah
- Dugway Community Library, 2243 Kister Avenue, Dugway, Utah
- Salt Lake County Whitmore Library, 2197 East Fort Union Boulevard, Salt Lake City, Utah
- Salt Lake City Public Library, 210 East 400 South, Salt Lake City, Utah
- WDTC Technical Library, DPG, Utah

Public comments received and the response to the comments are provided in Appendix B.

CHAPTER 6
REFERENCES

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CHAPTER 7
LIST OF PREPARERS

This Supplemental Environmental Assessment has been prepared by the U.S. Army Dugway Proving Ground, West Desert Test Center with contractual assistance from Bechtel-S Corporation. The following individuals were primarily responsible for preparing and reviewing the Supplemental EA:

Sheri A. Rivera, Bechtel-S Corporation
B.S., 1989, Geography,
M.S., 1995, Urban Studies
Years of Experience: 19

Mary B. Peters, MBP Consulting, LLC
B.S., 1982, Fisheries and Wildlife Biology
J.D., 1998, Law
Years of Experience: 20+

Andy Weinberg, Bechtel-S Corporation
B.A., 1982, Geology
M.A., 1987, Geochemistry
Years of Experience: 20+

Steve Winton, P.E., Bechtel-S Corporation
B.S., 1972, Chemical Engineering
Years of Experience: 20+

APPENDIX A
Agency Consultation Correspondence

DEPARTMENT OF THE ARMY
HEADQUARTERS, U.S. ARMY DUGWAY PROVING GROUND
DUGWAY, UTAH 84022-5000

30 MAR 2009

REPLY TO
ATTENTION OF

Office of the Commander

Ms. Barbara Murphy
Deputy State Historic Preservation Officer - Historic Preservation
Utah Division of State History
300 Rio Grande
Salt Lake City, Utah 84101-1182

Dear Ms. Murphy:

Please find enclosed building site forms and photos for the National Register of Historic Places (NRHP) evaluation of two buildings (4224, 4062) in the Ditto Area on U.S. Army Dugway Proving Ground (DPG). All evaluations performed were conducted under the direct supervision of personnel who meet the applicable professional qualifications as set forth in 36 Code of Federal Regulation (CFR) 61 Appendix A, and the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation. The evaluation was prepared by PanAmerican Consultants Inc, Architectural History Division.

The Ditto area of DPG is the technical center of West Desert Test Center and is the chemical and mission administration area of DPG; within Ditto is the Michael Army Airfield (MAAF) and associated support buildings. DPG is currently proposing an undertaking to buildings 4224 and 4062 as a result of President Obama's stimulus package. Building 4224 is a non-functioning Power House that will be renovated for the installation of modern generators which will support mission activities during frequent power outages. Building 4062 is a Flammable Materials Storage shed. Building 4062 is proposed for demolition. This building lies within the safety fan of the Michael Army Airfield, therefore removal is required.

The two buildings evaluated for the NRHP during the course of this project are listed below and I request your concurrence on the NRHP determinations for these properties.

Building Number	Year Constructed	NRHP Determination
4224	1943	Not Eligible
4062	1954	Not Eligible

As such, I am proposing a determination of **no historic properties affected** by the proposed activity [36 CFR §800.4(d)(1)].

- 2 -

As required by the provisions of 36 CFR §800.4(d), I am providing the above-mentioned report for your comment. Please direct correspondence for this project to Ms. Rachel Quist, DPG Cultural Resource Management Officer, through the mail (IMWE-DUG-PWE-P MS#1, 5330 Valdez Circle, Dugway, Utah 84022-5001), email (rachel.quist@us.army.mil), or telephone (435 831-3587). As always, I appreciate your attention on this matter.

Sincerely,

Robert E. Jones, Jr.
Colonel, US Army
Commanding

Enclosure

United States Department of the Interior

NATIONAL PARK SERVICE
1849 C Street, N.W.
Washington, D.C. 20240

IN REPLY REFER TO:

2280

To: Robert E. Jones, Jr.
Colonel, US Army
Commanding
Headquarters, US Army Dugway Proving Ground
Dugway, Utah 84022-5000

The Director of the National Park Service wishes to inform you of our determination pursuant to the National Historic Preservation Act, as amended, and Executive Order 11593 in response to your request for a determination of eligibility for inclusion in the National Register of Historic Places. Our determination appears on the enclosed material.

As you know, your request for our professional judgment constitutes a part of the Federal planning process. We urge that this information be integrated into the National Environmental Policy Act analysis and the analysis required under section 4(f) of the Department of Transportation Act, if this is a transportation project, to bring about the best possible program decisions.

This determination does not serve in any manner as a veto to uses of property, with or without Federal participation or assistance. The responsibility for program planning concerning properties eligible for the National Register lies with the agency or block grant recipient after the Advisory Council on Historic Preservation has had an opportunity to comment.

Attachment

Co M

United States Department of the Interior

NATIONAL PARK SERVICE
1849 C Street, N.W.
Washington, D.C. 20240

IN REPLY REFER TO:

DETERMINATION OF ELIGIBILITY NOTIFICATION

National Register of Historic Places
National Park Service

Name of Property: Ditto Area, U.S. Army Dugway Proving Ground

Location: Tooele County **State:** UTAH

Request submitted by: Robert E. Jones, Jr., Colonel, US Army, Commanding, Headquarters, U.S. Army Dugway Proving Ground, Dugway, Utah, 84022-5000

Date received: 5/8/09 **Additional information received**

Opinion of the State Historic Preservation Officer:

__**Eligible** __**Not Eligible** __**No Response** X **Need More Information**

Comments:

The Secretary of the Interior has determined that this property is:

__**Eligible** __X__**Not Eligible**
Applicable criteria:

Comment:

Based on the materials provided we concur with the Army's evaluation that Buildings Number 4224 (Power House) and 4062 (Flammable Materials Storage Shed) are not individually eligible for listing in the National Register of Historic Places.

When considering individual eligibility (for military properties) the National Register believes it is appropriate to consider how critical a particular building or structure might have been to the essential mission of that facility. Only those mission-critical properties are likely to be individually eligible. Typically, Cold War military installations contain large numbers of resources that reflect standardized support facilities common across the military landscape. These peripheral support structures common to most, if not all, similar installations would seldom qualify for individual listing. While both Building #4224 and Building #4062 were present during the research complex's period of significant operation, neither individually retains the ability to convey the significant mission-critical functions of the Dugway Proving

Grounds installation.

For individual listing, we believe that the national contexts provided in the *National Register of Historic Places Evaluations for the Ditto and Avery Areas of U.S. Army Dugway Proving Ground, Tooele County, Utah* (2009) and the *Inventory and National Register Evaluation for Selected Buildings in the Baker Area* (2007) studies are appropriate for the evaluation of these resources. While these facilities historically operated within the confines of the State of Utah and Tooele County, their role in the larger context of United States military and political history was played out at the national level, as part of the government's larger program for military defense and research. While additional historic contexts or criteria might conceivably be applied to the evaluation of these resources (local economic development, settlement, politics) it is difficult to see, given the current information, how these particular resources would rise to the level of National Register significance. While in general the National Park Service agrees that properties need to be evaluated under national, state and local contexts, as appropriate, given the particular history and functions of these two buildings we find no compelling evidence that a different conclusion would be reached regarding National Register eligibility, particularly in light of the relative age of these properties.

Keeper of the National Register

Date: 5/28/2009

WASO-28

Ditto.doe

APPENDIX B
Public Comments / Responses

Veronica Douglas / Don Huff
Written Comments on Draft Supplemental Environmental Assessment for JLENS

Hello Paula,

My wife Veronica Douglass just got copy of the subject EA, dated July 27, 2009. We are in Calif tending to some family illnesses but want to provide comments on the EA.
1) We note that the EA covers biological resources and should state that you should also be aware that avain spp., i.e. Great Horned Owl and the Red-tailed Hawk, are also present with nests in the area of her ranch property. 2) It should also be noted that the Bonneville cutthroat trout is also present on the ranch area with ponds being managed there for the Utah Division of Wildlife Resources for use in stocking the Deep Creek Mountain Range streams. Her area are shown as one of your avoidance areas in Figure 6 (pg 17) of the EA Draft.

We appreciate the opportunity to provide these comments to you. Please keep us on your list to receive any further JLENS information. While she has been to some of your meetings in the West Desert I have not been able to make the meetings due to schedule conflicts. However, please add my name/org to your contact list on JLENS.

Veronica Douglass
HC 61, Box 380
Wendover, UT 84083
and
Don Duff
Great Basin Chapter
Trout Unlimited
P.O. Box 32
Baker, NV 89311.

Veronica Douglass, Wendover, UT / Don Duff, Baker, NV

COMMENT 1: We note that the EA covers biological resources and should state that you should also be aware that avian spp., i.e. Great Horned Owl and the Red-tailed Hawk, are also present with nests in the area of her ranch property.

RESPONSE 1: DPG has added the great horned owl and the red-tailed hawk to the narrative on biological resources, and noted that the two birds nest in the area of the JLENS proposed activities. Based on existing studies mentioned in the environmental assessment (EA), DPG concludes that the JLENS testing will not have a significant adverse affect on the great horned owl, the red-tailed hawk, or their nests or young.

COMMENT 2: It should also be noted that the Bonneville cutthroat trout is also present on the ranch area with ponds being managed there for the Utah Division of Wildlife Resources for use in stocking the Deep Creek Mountain Range streams.

RESPONSE 2: DPG has referenced the presence of the Bonneville cutthroat trout with ponds being managed there for the Utah Division of Wildlife Resources for use in stocking the Deep Creek Range to the narrative on biological resources. The flights of drones and chase aircraft will occur infrequently – about once a month. The drones and chase aircraft have been in widespread use at and near military bases for years. Drones and chase aircraft have had little emissions or noise impact on the environment, including pond fish.

COMMENT 3: Please keep us on your list to receive any further JLENS information.

RESPONSE 3: DPG will continue to transmit JLENS environmental assessments to you and we will add your name to the contact list.