FINDING OF NO SIGNIFICANT IMPACT
BALLOON LAUNCH AND LANDING OPERATIONS
KIRTLAND AIR FORCE BASE, NEW MEXICO

Pursuant to the Council on Environmental Quality regulation for implementing the procedural provisions of the National Environmental Policy Act (NEPA), Title 40 of the Code of Federal Regulations (CFR) §§1500 – 1508; Air Force Environmental Impact Analysis Process (EIAP) regulations 32 CFR §989; and Department of Defense Directive 6050.1; the Air Force has prepared an environmental assessment (EA) to identify and evaluate the potential impacts on the natural and human environment associated with performing medium to high-altitude balloon flights in several counties located in the states of New Mexico, Arizona, and Texas.

Purpose and Need for the Proposed Action (EA §§1.1 and 1.3)

The mission of the Air Force Research Laboratory (AFRL)/Space Vehicles Directorate (RV), stationed at Kirtland Air Force Base (AFB), New Mexico, is to provide the Air Force, Department of Defense (DoD), their contractors, and other federal agencies with near-space access for research and development (R&D). Under the Proposed Action, AFRL/RV would collect high-altitude data (65,000 feet or greater) needed to support programs critical to the long-term defense and military readiness of the United States. This information would be used to enhance the technologies needed to characterize the stratospheric environment, improve over-the-horizon communications capabilities, and develop technologies for DoD-related stratospheric and space-based systems.

Description of Proposed Action and Alternatives (EA §§2.1 – 2.5)

Selection criterion (EA §2.1) was used to identify the range of reasonable alternatives which could meet AFRL/RV underlying purpose and need. This criterion focused on two areas: platform requirements and launch and landing locations. In order to collect the atmospheric data, the platform had to (1) allow the research vessel to reach and loiter at altitudes greater than 65,000 feet; (2) be able to carry up to 7,000 pounds of payload; (3) be re-useable for other flight testing missions; (4) keep average costs under $1 million per flight operation; (4) allow for a wide range of operations and flight configurations; and (5) be readily available for flights within three months of initial planning. The launch and landing locations had to be within a 10-hour drive from Kirtland AFB and could only occur during clear, atmospheric conditions with less than 50 percent cloud cover and low surface winds.

During the alternative scoping process (EA §2.4), AFRL/RV considered using small rockets, airplanes and/or satellites to collect high altitude data. Small rockets were dismissed because they were incapable of loitering for long periods and their landing impacts were severe. Airplanes also did not provide sufficient loiter time nor would they allow for a wide range of operation configurations to accommodate specific R&D needs. Furthermore, rockets and airplanes would have to operate in existing military test airspace, much of which is approaching airspace saturation and would not allow for quick availability of flights. Satellites were prohibitively expensive, did not allow for payload reuse and also did not allow for quick testing availability. Only using a balloon platform would meet all of AFRL/RV testing requirements and was carried forward for further analyses.

Report Documentation Page

Form Approved
OMB No. 0704-0188

1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED
JUN 2012		**00-00-2012 to 00-00-2012**

4. TITLE AND SUBTITLE	5a. CONTRACT NUMBER
Environmental Assessment, Balloon Launch and Landing Operations, Air Force Research Laboratory, Space Vehicles Directorate, Kirtland Air Force Base, New Mexico	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)	5d. PROJECT NUMBER
	5e. TASK NUMBER
	5f. WORK UNIT NUMBER
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) **CH2M HILL,9191 S. Jamaica Street,Englewood,CO,80112**	8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release; distribution unlimited

13. SUPPLEMENTARY NOTES

14. ABSTRACT

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			
unclassified	**unclassified**	**unclassified**	**Same as Report (SAR)**	**348**	

Description of the Proposed Action (EA §2.2)

Under the Proposed Action, approximately 30 balloons per year for the next 20 years would be used to perform R&D on equipment and technology in the stratosphere. Launches and landing sites would be selected to provide the optimal flight path and would occur within counties located in New Mexico, Arizona, and Texas (EA Figure 2-1). Each flight pattern would vary depending on mission requirements, weather patterns, and seasonal wind. The AFRL/RV staff meteorologist would use weather balloon soundings from major regional airports to approximate ascent and descent wind profiles as well as predict the resulting trajectory and ability to bring the system down in a safe area.

Flight operation equipment would include the balloon envelope, gondola, in-line parachute, termination system, on-board subsystems, and payload. Support systems and vehicles would include a helium trailer, launch-restraint vehicle, launch vehicle, mobile ground station, and recovery vehicles. The balloon envelopes would be made of polyethylene plastic designed and manufactured according to the specific payload and operation requirements. Inflated balloon envelopes would be 200 to 500 feet in diameter. Approximately 80,000 cubic feet of helium would be required to fill each balloon envelope and each envelope would be equipped with radar-reflective yarn and strobes to allow detection by other aircraft. After landing, the deflated balloon envelope would be recovered and disposed of at a landfill. The gondolas would be made of aluminum and provide a structure for the payload and on-board systems (flight control systems, satellite communications link, radio frequency transmitter, silver-zinc and lithium polymer batteries, and flight safety systems). The size and width of each gondola would vary with the specific operation requirements needed by each customer. Cardboard footings would be installed on the gondolas to absorb impact and protect the equipment, which can then be reused to minimize cost. Once a gondola is no longer serviceable/repairable, all material would be either salvaged or recycled.

The balloon and equipment would be laid out on a launch pad or runway and all equipment and systems would be tested. The balloon would then be inflated and launched once the systems check out. All vehicles would stay on paved/hard-packed surfaces during the entire launch. A semi-truck trailer would be set up along the flight path (not necessarily co-located with the launch site) to allow visual observations of the balloon and equipment during flight. Balloons would also be equipped with remote command systems as well as a global positioning system (GPS). Landing areas would be identified 30 minutes prior to terminating the flight. Once identified, helium would be released to bring the balloon to the release altitude. The gondola and balloon would be physically separated from each other using an S-68-grain squib (a standard device for explosive-controlled release). The gondola would be slowed by parachute to a defined landing point to minimize environmental impacts, prevent damage to the balloon assembly, and facilitate recovery (EA Figure 2-2). Recovery vehicles include a four-wheel drive, 2.5 ton knuckle crane, a flat-bed truck to transport the balloon, and a four-wheel drive pick-up truck. The balloon envelopes typically land within 10 miles of the gondola landing site. All equipment would be removed from the recovery site and the disturbed area restored to its original condition.

No Action Alternative (EA §2.3)

Under the No Action Alternative, AFRL/RV would not perform high-altitude R&D balloon operations. Instead, equipment would be tested in existing labs, attempting to simulate near-space conditions as

much as possible. The No Action Alterative is the baseline for the rest of the analyses and helps determine the level of impact the Proposed Action would have on the environment.

Environmental Consequences

Environmental analyses focused on the following areas: land use, airspace management, air quality, safety and occupation health, hazardous materials and hazardous wastes, biological resources, cultural resources, water resources, soils, socioeconomics, and environmental justice/protection of children. Resource areas eliminated from further study, because they were either not present within the Proposed Action area or they would have a negligible impaction on the environment, were ground transportation, visual, noise, utilities/infrastructure and geology (EA §1.4).

Land Use (EA §4.1): The Proposed Action would not result in permanent changes to land use designations. Launch operations would occur on existing airfield or paved areas and landing operations would be planned to occur near unpaved roads and away from wilderness areas, American tribal lands, national parks and/or restricted areas. AFRL/RV personnel would contact land management agencies, tribal officials, and landowners to disclose recovery operations. If an emergency landing within an exclusion zone should occur, AFRL/RV would offer appropriate compensation and work with the landowner to restore any damage; therefore, no impacts to land use would occur.

Airspace Management (EA §4.2): AFRL/RV personnel would coordinate all balloon operations with Federal Aviation Administration (FAA), use the Notices to Airmen system to alert civilian and military aviators, and maintain communication with FAA during balloon flight operations. Additionally, the balloons would be equipped with a FAA-approved transponder and their locations continually tracked using a GPS. Each balloon would also be equipped with reflective yarn easily tracked with radar should the GPS fail. If a balloon's trajectory should change unexpectedly during flight, AFRL/RV would immediately notify the FAA. By coordinating with FAA and continuously tracking the balloons during flight, impacts to airspace would be less than significant.

Air Quality (EA §4.3): All counties within the Arizona and Texas launch and landing sites as well as the majority of counties in New Mexico are in attainment for all U.S. Environmental Protection Agency criteria pollutants listed under the National Ambient Air Quality Standards. Only Bernalillo and Dona Ana counties are designated nonattainment for carbon monoxide (CO) and PM_{10} (particulate matter with aerodynamic diameter less than 10 micrometers) and as a result are subject to general conformity analysis under the Clean Air Act. The de minimis thresholds for both CO and PM_{10} maintenance areas are 100 tons/year. Because a number of vehicles are needed to support the Proposed Action, emissions for CO and PM_{10} were calculated and determined to be below de minimis levels (EA Table 4-2). Comparisons were also made of the greenhouse gas (GHG) emissions from the Proposed Action with the GHG emission inventories of the three states. Calculations showed GHG emissions from the Proposed Action would be less than 1 percent and are not expected to affect the implementation of each state's GHG emission reduction target (EA Table 4-3). Overall, there would be no impact to air quality with implementation of the Proposed Action.

Safety and Occupation Health (EA §4.4): The Proposed Action would require personnel to operate various vehicles and testing equipment to perform launch, flight, landing and recovery operations. AFRL has established test and safety plans to define proper procedures, which will be followed. Even

through the small explosive actuator and cutter devices (S-68 2 grain squibs) are self contained and pose no fire hazards, all recovery vehicles would be equipped with fire extinguishers and shovels. By implementing these procedures, there would be no impact to safety and occupation health under the Proposed Action.

Hazardous Materials and Hazardous Wastes (EA §4.5): Balloon operations would require the use of lithium ion and silver-zinc batteries as well as small explosive actuator and cutter devices. All batteries would be recovered and reused for follow-on flights. If a battery becomes punctured or damaged during balloon operations, it would be handled in accordance with Kirtland AFB hazardous material handling procedures and the AFRL/RV battery spill clean-up procedures. Activated, spent squibs would be recovered and disposed of according to these plans as well. Helium is an inert gas and does not fall under the definition of a hazardous waste. Implementing the Proposed Action would have no impact to hazardous material/hazardous wastes.

Biological Resources (EA §4.6): The Proposed Action crosses a wide array of ecosystems that contain a large variety of plant and animal communities. Launches would only occur on previously disturbed areas and personnel would use established routes of travel to enter the sites. There are short-term, temporary impacts associated during flight and landing of the balloons. A majority of each flight would occur at altitudes that do not support life; however, avian species as well as bats could be encountered when the balloon is gaining or decreasing altitudes. Additionally, terrestrial plants and animals could be encountered during landing events. The speed of descent and landings would be controlled to the maximum extent possible and targeted landing sites would avoid U.S. Fish and Wildlife recognized critical habitat where threatened and endangered species inhabit. Overall there would be no significant impacts to biological resources under the Proposed Action.

Cultural Resources (EA §4.7): Balloon launches would occur from previously disturbed areas, where no historic properties are located nor would there be impacts to these sites during balloon flights. It is during balloon landing and recovery when there is a potential for adverse affects on historic properties. To mitigate any inadvertent damage, the Kirtland AFB Cultural Resources Manager (CRM) developed a "*Standard Operating Procedures (SOP) for Protection of Historic Properties for the Balloon Launch and Landing Events, AFRL High-Altitude Balloon Program*" (attached).

For each specific landing/recovery event, AFRL personnel will provide to the Kirtland CRM a list of state counties in which the balloon(s) could potentially land. The Kirtland CRM, in turn, will examine those specific counties to determine the presence/absence of historic properties within the "area of potential effects" and inform AFRL personnel the results of the analysis. If no historic properties are identified, the specific balloon drop will be a "no adverse effect" determination. If historic properties are identified, AFRL technicians will plan to avoid landing the balloon within a one-mile radius from the site(s), which will then be considered a "no adverse effect" determination. If a balloon inadvertently lands within one mile of an identified historic property or an undocumented historic property, AFRL personnel will notify Kirtland CRM and the land owner/manager. If it is determined damage has occurred, a qualified archaeologist will develop a Memorandum of Agreement and mitigation plan with the State and Tribal Historic Preservation Officers (SHPO/THPO).

Each year AFRL and the Kirtland CRM will provide an annual report to the applicable SHPOs/THPOs, federal and state land managers, and private land owners regarding the activities of the AFRL high-

altitude balloon program. By following the attached SOP, adverse impacts to cultural resources would be mitigated to insignificant. As part of this action, AFRL and Kirtland AFB CRM will be required to develop a mitigation plan outlining how mitigations will be executed within 90-days of signature on this document. This plan will be forwarded through Air Force Materiel Command for review and approval.

Water Resources (EA §4.8): The Proposed Action is not anticipated to result in impacts to water resources. Construction or ground disturbing activities are not required. Balloon launching would occur on established airfields and/or paved areas. In addition, balloon landing and recovery operations would be sited away from surface waters and wetland areas.

Soils (EA §4.9): Balloon launch, landing, and recovery operations are not expected to have a significant impact to soil resources. Launches would only occur on designated airfield and/or paved areas. While landings of the gondola and payload would impact soils, these impacts would be minimized to the maximum extent possible by controlling the descent and keeping recovering vehicles on existing roadways wherever possible. If areas are disturbed, AFRL/RV personnel would return the site to original condition by raking and re-vegetating, as needed. Biological soil crusts may be disturbed during balloon landing and recovery from driving vehicles or walking on the surface. Recovery is slow and can take up to 5 years. To reduce impacts, AFRL will minimize the size of the disturbed area by using existing roadways as much as possible. By limiting the disturbance size, nearby biological crust organisms would naturally inoculated these areas and increase the rate of repair; therefore, implementation of the Proposed Action will not have significant impact soils.

Socioeconomics (EA §4.10): The Proposed Action would have no appreciable effect on socioeconomic conditions of the region. There may be minor, short-term benefits on the local economy in areas where launch and recovery operations would occur from patronizing the local establishments; however, these benefits would not be long-term to socioeconomic conditions.

Environmental Justice and Protection of Children (EA §4.11): The Proposed Action is not expected to preferentially affect minority or low-income communities or children since the balloon launch and recovery sites would avoid populated areas. Additionally, balloon recovery would occur within hours of the landing.

Public Notice

NEPA, 40 CFR §1500-1508, and 32 CFR §989 require public review of the EA before approval of the Finding of No Significant Impact and implementation of the Proposed Action. A notice was published in the Albuquerque Journal, Odessa American, and Arizona Daily Sun on 29 January 2012 announcing the 30-day comment period. Copies of the draft EA and FONSI were available for public review at the Kirtland AFB Library, Kirtland AFB, NM 87117; Central New Mexico Community College Montoya Campus, 4700 Morris NE, Albuquerque, NM 87102; Flagstaff City Public Library, 300 W. Aspen Ave., Flagstaff, AZ, 86001; and Ector County Library, 321 W. 5th St., Odessa, TX 79761. Electronic copies were placed at http://www.kirtland.af.mil under the environmental issues tab. The comment period ended 28 February 2012. Comments were received from the New Mexico State Historic Preservation Officer and were addressed in the final EA. Concurrence letters and letters indicating that no comment would be provided were received from United States Department of Agriculture (Forest Service),

National Park Service, State of New Mexico Department of Game and Fish, Texas State Historic Preservation Officer, and Arizona State Historic Preservation Officer.

FINDING OF NO SIGNIFICANT IMPACT

Based upon my review of the facts and analyses contained in the attached EA and as summarized above, I find the Proposed Action to conduct medium to high-altitude balloon R&D flights in several counties across New Mexico, Arizona, and Texas will not have a significant impact on the natural or human environment; therefore, an environmental impact statement is not required. This analysis fulfills the requirements of NEPA, the President's Council on Environmental Quality 40 CFR §§1500-1508 and the Air Force EIAP regulations 32 CFR §989.

Signature on File, Signed 13 AUG 12 Date_____

PAUL A. PARKER, SES
Command Civil Engineer
Communications, Installations
And Mission Support

Attachment (SOP)

Final

Environmental Assessment, Balloon Launch and Landing Operations, Air Force Research Laboratory, Space Vehicles Directorate, Kirtland Air Force Base, New Mexico

Prepared for

Air Force Research Laboratory,
Kirtland Air Force Base, New Mexico

June 2012

Contents

Section **Page**

Section **Page**

Appendices

Table **Page**

Figure **Page**

Acronyms and Abbreviations

$\mu g/m^3$	micrograms per cubic meter
°F	degrees Fahrenheit
ADEQ	Arizona Department of Environmental Quality
AFB	Air Force Base
AFRL	Air Force Research Laboratory
Air Force	U.S. Air Force
APE	area of potential effect
AQCB	Albuquerque/Bernalillo County Air Quality Control Board
BLM	Bureau of Land Management
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	carbon monoxide
CO_2	carbon dioxide
DoD	U.S. Department of Defense
EA	environmental assessment
EO	Executive Order
EPA	U.S. Environmental Protection Agency
FAA	Federal Aviation Administration
Forest Service	U.S. Forest Service
GHG	greenhouse gas
GPS	global positioning system
LMP	limited maintenance plan
MMTCE	million metric tons of carbon equivalent
$MMTCO_2E$	million metric tons of carbon dioxide equivalent
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act of 1969

NHPA	National Historic Preservation Act
NMED	New Mexico Environment Department
NO_2	nitrogen dioxide
NO_x	nitrogen oxide
NOAA	National Oceanic and Atmospheric Administration
NPL	National Priority List
NPS	National Park Service
O_3	ozone
PM_{10}	particulate matter with aerodynamic diameter less than 10 micrometers
$PM_{2.5}$	particulate matter with aerodynamic diameter less than 2.5 micrometers
ppm	parts per million
R&D	research and development
RCRA	Resource Conservation and Recovery Act of 1976
RV	Space Vehicles Directorate
SHPO	State Historic Preservation Officer
SIP	state implementation plan
SO_2	sulfur dioxide
SO_x	sulfur oxide
SOP	standard operating procedures
State Act	New Mexico Air Quality Control Act
TCEQ	Texas Commission on Environmental Quality
THPO	Tribal Historic Preservation Officer
USAF	U.S. Air Force
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VOC	volatile organic compound

SECTION 1

Purpose and Need for Action

This environmental assessment (EA) has been prepared in accordance with U.S. Air Force (USAF or Air Force) requirements under the National Environmental Policy Act of 1969 (NEPA) (42 United States Code [USC] Sections 4321–4370d), the Council on Environmental Quality (CEQ) NEPA-implementing regulations (Title 40 Code of Federal Regulations [CFR] Parts 1500–1508), USAF NEPA-implementing regulations (32 CFR 989), and U.S. Department of Defense (DoD) Instruction 4715.9 (*Environmental Planning Analysis*).

Under the Proposed Action, the Air Force Research Laboratory (AFRL), Space Vehicles Directorate (RV) would conduct medium- to high-altitude balloon flights. This section describes the purpose of and need for the Proposed Action, and summarizes the scope of the environmental review and applicable regulatory framework.

1.1 Introduction and Background

Balloons have historically played an important role in high-altitude data collection and the military readiness of the United States. Since the 1940s, scientific experimentation using balloons has contributed substantially to the understanding of the near-earth and space environments. Stratospheric balloons (balloons operating at altitudes above 65,000 feet), provide a risk-reduction alternative to operating in space. The types of experiments that have been conducted using balloons include space qualification, sensor development, atmospheric research, aerodynamic body drop testing, and flight vehicle development.

The mission of the AFRL/RV balloon program is to provide the Air Force, DoD, DoD contractors, and other government agencies with near-space access for research and development (R&D), including scientific and war-fighter risk reduction, demonstrations, and applications. The AFRL/RV is the only DoD organization that can provide access to the stratosphere and is one of only two organizations in the United States government that flies these types of balloons. The AFRL/RV has been flying balloons since 1947, and has launched and flown in excess of 3,000 balloons. Most of these missions have been conducted in the arid regions in the southwestern United States (Arizona, Colorado, New Mexico, and Texas). The AFRL/RV has well-established procedures for balloon operations.

1.2 Location of the Proposed Action

Approximately 30 launch and landing operations each year are proposed at locations across New Mexico, Arizona, and Texas. Table 1-1 lists counties with proposed launch and landing sites. Figure 1-1 shows the balloon launch and landing operation location map. Figure 1-2 shows the location of the Proposed Action by state and county.

TABLE 1-1
Location of the Proposed Action – Potential Launch and Landing Locations
Environmental Assessment, Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico

New Mexico Counties	Arizona Counties	Texas Counties
McKinley	Apache	Loving
Cibola	Navajo	Winkler
Valencia		Ector
Catron		Andrews
Socorro		Martin
Doña Ana		Gaines
Sierra		Dawson
Otero		Yoakum
Eddy		Terry
Lea		Lynn
Chaves		
Lincoln		
Torrance		
Guadalupe		
De Baca		
Curry		
Roosevelt		
San Miguel		
Union		
Santa Fe		
Bernalillo		

Specific launch and landing locations within the counties listed in Table 1-1 would be selected to provide the optimal flight path to fulfill mission requirements. Consequently, the launch and landing locations would vary as a result of different mission requirements. Launch and landing locations would also be determined on the basis of normal weather patterns and weather patterns related to seasonal winds. Launch operations would be conducted at developed facilities such as existing military airfields and municipal airports. Landing operations would be planned to occur in areas where roads currently exist and to avoid mountainous terrain, sensitive areas, obstacles, and populated areas. Areas excluded as potential launch and landing areas are described in Section 2.2.

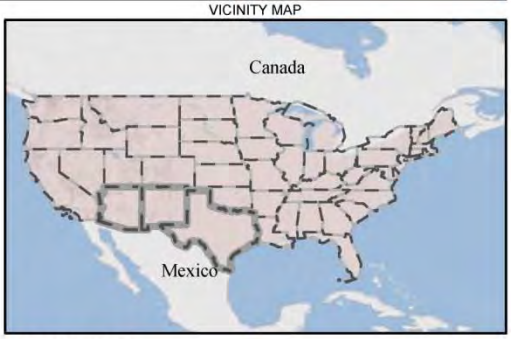
1.3 Purpose and Need for the Proposed Action

The purpose of the Proposed Action is to support programs critical to long-term defense and military readiness of the United States. As discussed in Section 1.1, the mission of the AFRL/RV balloon program is to provide the Air Force, DoD, DoD contractors, and other government agencies (customers) with stratospheric access for R&D, including scientific and war-fighter risk reduction, demonstrations, and applications. The AFRL/RV supports programs that are critical to the national defense posture of the United States. Implementation of the Proposed Action would help AFRL/RV to meet the requirements of their mission.

LEGEND

- STATE CAPITAL
- INTERSTATE
- STATE IN WHICH PROPOSED ACTION WOULD OCCUR
- STATE BOUNDARY
- WATER

VICINITY MAP



N

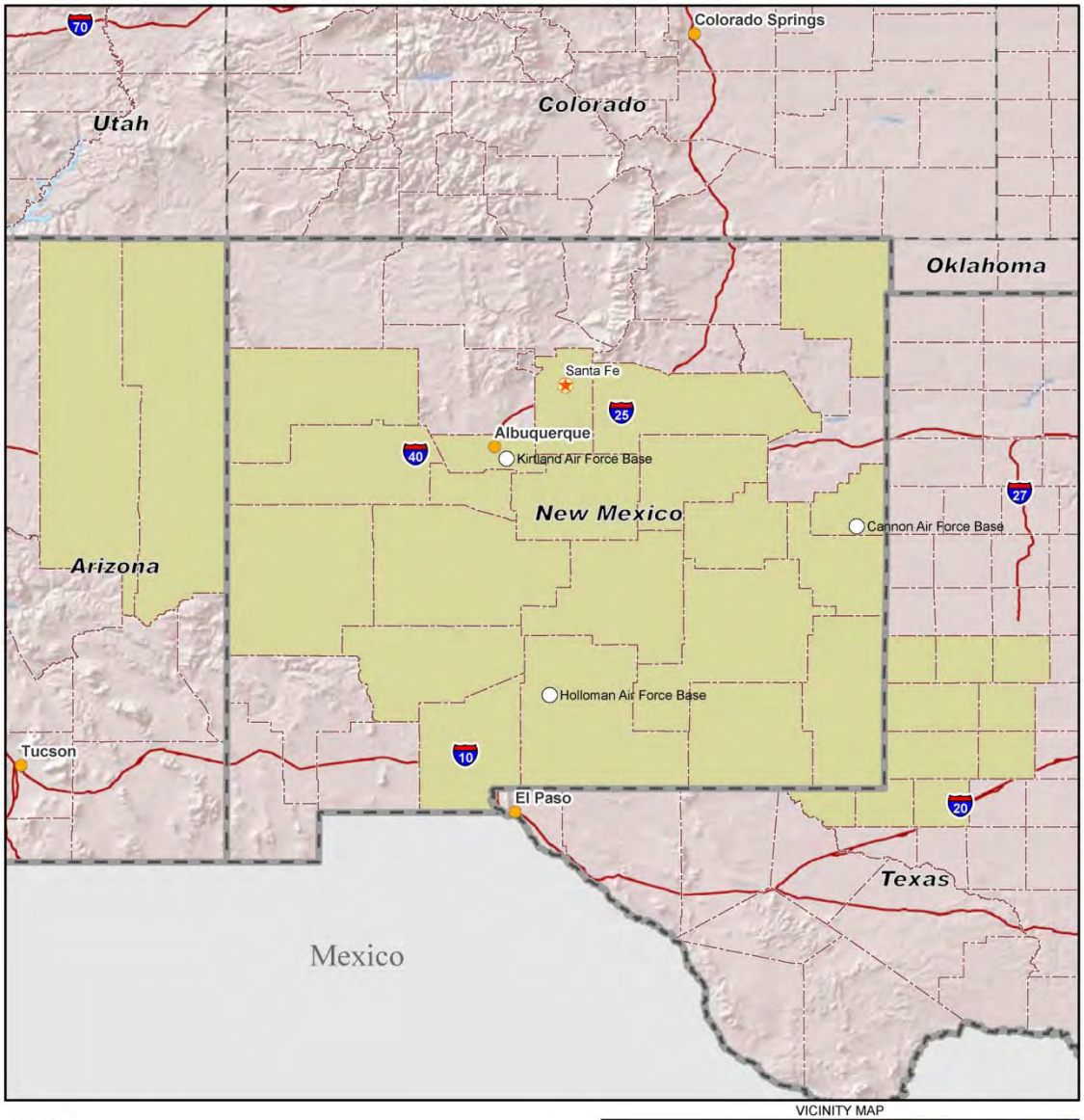
0 125 250

Miles

FIGURE 1-1
BALLOON LAUNCH AND LANDING OPERATIONS LOCATION MAP
ENVIRONMENTAL ASSESSMENT,
BALLOON LAUNCH AND LANDING OPERATIONS,
AIR FORCE RESEARCH LABORATORY
KIRTLAND AIR FORCE BASE

\\BALDUR\PROJ\AFRL_396452\MAPFILES\EIS\FIG1-1_LOC.MXD TMCBROOM 2/8/2010 10:35:40

CH2MHILL



VICINITY MAP

LEGEND

- AIR FORCE BASE LOCATION
- STATE CAPITAL
- CITY OVER 250,000
- INTERSTATE
- STATE IN WHICH PROPOSED ACTION WOULD OCCUR
- STATE BOUNDARY
- COUNTY IN WHICH PROPOSED ACTION WOULD OCCUR
- COUNTY
- WATER

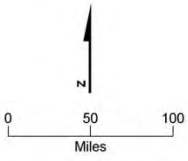


FIGURE 1-2
LOCATION OF PROPOSED ACTION
ENVIRONMENTAL ASSESSMENT,
BALLOON LAUNCH AND LANDING OPERATIONS,
AIR FORCE RESEARCH LABORATORY
KIRTLAND AIR FORCE BASE

CH2MHILL

\\BALDUR\PROJ\AFRL_396452\MAPFILES\EIS\FIG1-2_AFFECTED_COUNTIES.MXD TMCBROOM 2/8/2010 09:18:22

The Proposed Action is needed to perform balloon operations to allow high-altitude data collection and to continue, evolve, and grow existing balloon operations to meet modern aerospace testing and evaluation needs. The purpose of the R&D associated with the balloon operations is to enhance the technologies used to characterize the stratospheric environment, improve over-the-horizon communication capabilities to meet federal government requirements, and develop technologies for DoD-related stratospheric and space-based systems. Balloon operations fulfill the needs of the customer by offering a combination of temperature, pressure, humidity, radiation levels, distance, speed, stability, remoteness, and economy that could not be matched by rocket, aircraft, or ground tests. Balloon flights provide safe and practical means to meet customer needs. Balloon operations would be continuously re-evaluated for opportunities to use the best and most appropriate technology balanced with environmental stewardship and public safety.

1.4 Scope of the Environmental Assessment

NEPA requires federal agencies to consider environmental consequences in their decision making process. The CEQ issued regulations to implement NEPA (40 CFR 1500–1508) that include provisions for both the content and procedural aspects of the required environmental analysis. The Air Force Environmental Impact Analysis Process is accomplished through adherence to the procedures set forth in 32 CFR 989. The environmental impact evaluation is designed to provide decision makers with an understanding of the potential environmental consequences of a proposed action.

1.4.1 Resources Analyzed in This Environmental Assessment

This EA addresses the potential environmental and socioeconomic effects of implementing the Proposed Action relative to the No Action Alternative. The following resources are addressed in this EA:

- Land use
- Airspace management
- Air quality
- Safety and occupational health
- Hazardous materials and hazardous waste
- Biological resources
- Cultural resources
- Water resources
- Soils
- Socioeconomics
- Environmental justice

1.4.2 Resources Eliminated from Further Study

As stated in 40 CFR 1500.1(b), "…NEPA documents must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail." Accordingly, potential impacts on several environmental resource areas were initially considered but determined not to be significant to the Proposed Action or No Action Alternative. In these instances, either the environmental resources were not present within the Proposed Action area, or the Proposed Action would have a negligible impact on these environmental

resources. The following environmental resource areas were determined not to be significant to the Proposed Action or No Action Alternative and were eliminated from further study:

- **Ground Transportation:** The Proposed Action would involve only short-term, temporary use of a minimal number of vehicles. Approximately six personnel vehicles would travel to the launch sites. Approximately three launch vehicles and associated equipment, such as the launch-restraint vehicle, helium trailer, and launch vehicle would be individually driven or shipped via semi-trailer to the site from Kirtland Air Force Base (AFB). All travel to the launch sites would occur on existing paved roads. One semi-trailer would be temporarily set up for flight operations. Three recovery vehicles would be used to recover the balloons and payloads at the landing sites. Transportation impacts resulting from implementation of the Proposed Action would be negligible and intermittent. Impacts on airspace transportation are discussed in Section 4.2.
- **Visual:** The Proposed Action would not result in permanent changes to visual resources. The transient nature of the Proposed Action, including the short-term, temporary launch and landing operations, would not result in impacts on visual resources.
- **Noise:** The Proposed Action would generate short-term, temporary noise from a minor number of operations-related vehicles. Additionally, noise would be generated during the process of filling the balloon with helium at the launch sites. All launch operations would occur at existing facilities such as airports or airfields, and noise associated with filling and launching the balloons would be within the range of the existing conditions and would not extend beyond the installation, airport, or airfield boundaries. Furthermore, the Proposed Action would be transient, and the noise would be short-term and temporary. Therefore, noise impacts would not result from implementing the Proposed Action.
- **Utilities and Infrastructure:** The Proposed Action would be transient and does not include any changes related to utilities and infrastructure. Utilities and infrastructure would not be affected as a result of implementing the Proposed Action.
- **Geology:** No construction or earthwork is associated with the Proposed Action. Consequently, no modifications to geological formations and no removal of geologic units would occur; therefore, no impacts on geology are expected. Impacts on soils are discussed in Section 4.9.

1.5 Regulatory Framework

The following laws are applicable to the Proposed Action described in this EA:

- Archaeological Resources Protection Act, 16 USC 470 et seq.
- Clean Air Act (CAA), 42 USC 7401 et seq.
- Clean Water Act, 33 USC 1251 et seq.
- Comprehensive Environmental Response, Compensation, and Liability Act, 42 USC 9601 et seq.

- Endangered Species Act, 16 USC 1531 et seq.
- Migratory Bird Treaty Act, 16 USC 703 et seq.
- National Historic Preservation Act, 16 USC 470 et seq.
- Occupational Safety and Health Act, 29 USC 651 et seq.
- Pollution Prevention Act, 42 USC 13101 et seq.
- Resource Conservation and Recovery Act (RCRA), 42 USC 6901 et seq.
- Toxic Substances Control Act, 15 USC 2601 et seq.

The following Executive Orders (EO) are applicable to the Proposed Action as described in this EA:

- EO 11514, "Protection and Enhancement of Environmental Quality" EO 11990, "Protection of Wetlands"
- EO 12372, "Interagency and Intergovernmental Coordination for Environmental Planning"
- EO 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations"
- EO 13007, "Indian Sacred Sites"
- EO 13045, "Protection of Children from Environmental Health Risks and Safety Risk"
- EO 13175, "Consultation and Coordination with Indian Tribal Governments"
- EO 13186, "Responsibilities of Federal Agencies to Protect Migratory Birds"
- EO 13423, "Strengthening Federal Environmental, Energy, and Transportation Management"
- EO 13514, "Federal Leadership in Environmental, Energy, and Economic Performance"

1.6 Compliance Requirements and Coordination

Under the Proposed Action, the following coordination, permits, or plans would be required for compliance with applicable regulations:

- Federal Aviation Administration (FAA) coordination for airspace management, flight, and landing notifications.
- Airport or airfield approval and coordination for launch operations.
- Tribal, private, local, state, and federal landowner permission to enter property for recovery of balloons and payloads, if necessary.
- Coordination with tribes, Tribal Historical Preservation Offices, and State Historic Preservation Offices for Arizona, New Mexico, and Texas, to avoid archaeological resources or American Indian lands. The "Standard Operating Procedures for Protection

of Historic Properties Specific for the Balloon Launch and Landing Events, Air Force Research Laboratory High-Altitude Balloon Program" (SOP) was developed for compliance with the National Historic Preservation Act (NHPA). The SOP will be in effect for the 20-year life of the project. The Finding of No Adverse Effect (36 CFR 800.5(b) is a result of conditions imposed by the SOP. See Section 2.6 for additional details and Appendix B for the SOP.

SECTION 2

Description of the Proposed Action and Alternatives

This section (1) identifies criteria used to measure the effectiveness of each alternative in meeting the purpose and need; (2) provides a detailed description of the Proposed Action, the No Action Alternative, and alternatives considered but eliminated from detailed analysis; (3) compares the alternatives; and (4) discusses agency and landowner coordination for the Proposed Action.

2.1 Identification of Selection Criteria

Selection criteria were developed on the basis of mission needs for AFRL/RV. Meeting the following criteria would satisfy the Proposed Action's purpose and need.

Platform:

- Allow research vessels to reach and loiter at altitudes greater than 65,000 feet.
- Allow research vessels to carry up to 7,000 pounds payload.
- Re-use operation-related equipment, flight control equipment, and research equipment.
- Keep average costs under $1 million per flight operation.
- Allow a wide range of operation and flight configurations including flight duration (beyond 24 hours continuous), payload size and shape (up to 200'x 50'x 50'), and platform stability (no motor induced vibrations) to accommodate specific R&D requirements.
- Allow quick availability for flights (within 3 months of initial planning activities).

Launch and Landing Locations:

- Use established secure sites for launch preparations and launches (that is, fenced or otherwise restricted access.
- Provide launch and landing sites within a 10-hour drive from Kirtland AFB.
- Locate flight paths, including launch and landing locations, in areas with suitable weather conditions for payload operations (flights can only occur during clear conditions with thin clouds and low surface winds).

2.2 Description of the Proposed Action

The Proposed Action would include approximately 30 balloon operations per year to perform R&D on equipment and technology in the stratosphere and would continue for 20 years.

As described in Section 1.2, launches and landings would occur at locations in New Mexico, Arizona, and Texas. Specific launch and landing locations within the counties listed in Table 1-1 would be selected to provide the optimal flight path, which would vary depending on mission requirements, normal weather patterns, and seasonal winds. In summer, balloon flights would typically launch in the east and land to the west. In winter, balloon flights would typically launch in the west and land to the east.

Flight operation equipment would include the balloon envelope, gondola, in-line parachute, termination system, on-board subsystems, and payload. Support systems and vehicles would include a helium trailer, launch-restraint vehicle, launch vehicle, mobile ground station, and recovery vehicles.

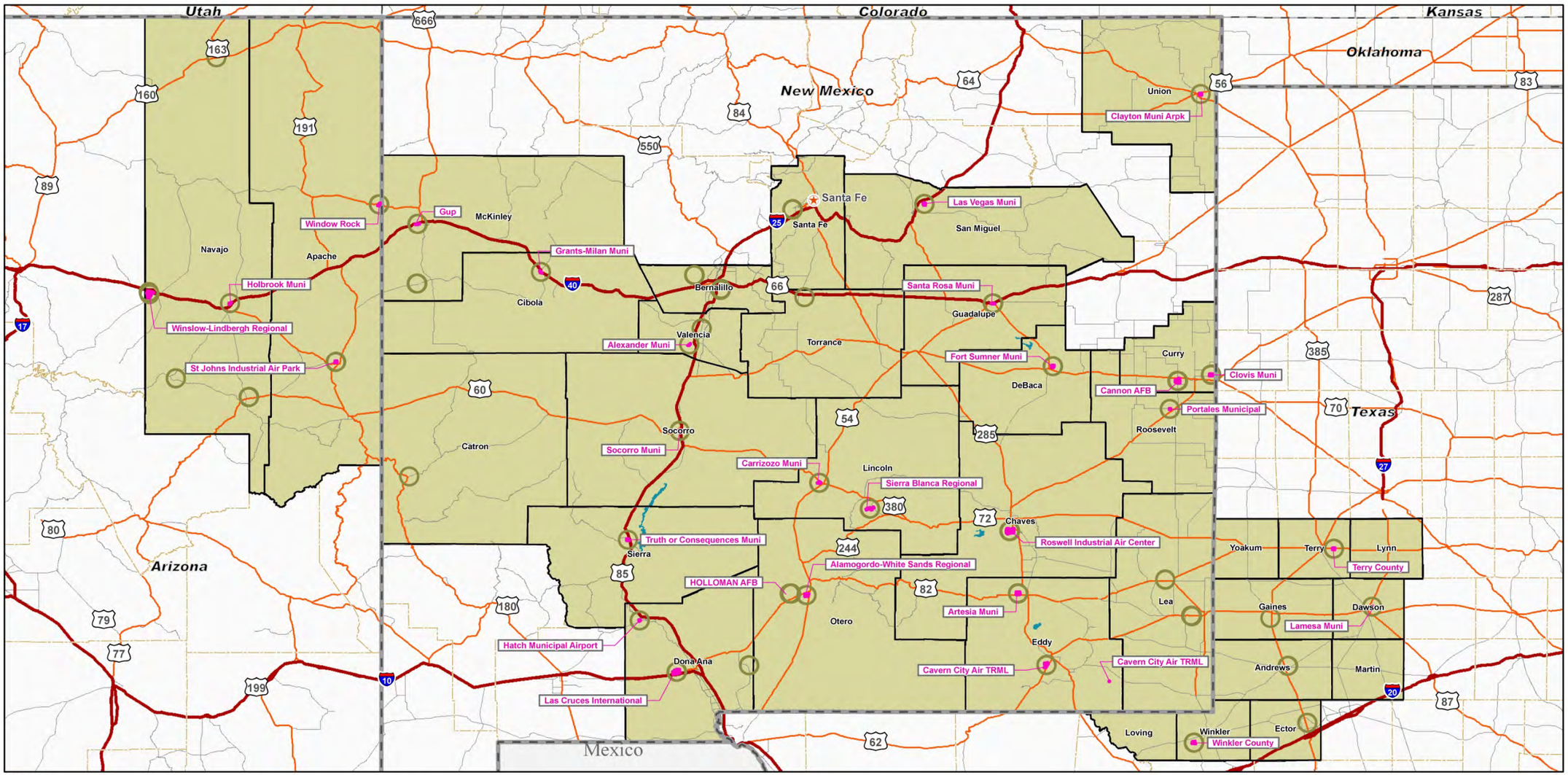
The balloon envelopes would be made of polyethylene plastic designed and manufactured according to the specific payload and operation requirements. Inflated balloon envelopes would be 200 to 500 feet in diameter. Approximately 80,000 cubic feet of helium would be required to fill each balloon envelope. Balloon envelopes would be fabricated to include radar-reflective yarn, and strobes would be installed to allow detection by other aircraft. After landing, the deflated balloon envelope would be recovered and disposed of at a landfill.

Gondolas would be designed and built specifically to meet the needs of each customer. The gondolas would be made of aluminum and would provide structure for the payload and on-board systems. The size and weight of the gondola would vary with the specific payload and operation requirements however, launch equipment can support up to 10,000 pounds. On-board systems include flight control systems, satellite communications link, radio frequency transmitter, silver-zinc and lithium polymer batteries, and flight safety (collision avoidance) systems. Gondolas would have cardboard footings to absorb the impact and protect the gondola, payload, and on-board subsystems. Batteries used on the gondolas would be small, rechargeable, and reused. If a customer requires several flights, a gondola would typically be designed to be recovered, repaired, and reused, as long as the repairs would not be cost prohibitive. With minimal rework after recovery, old gondolas could be reused for a new customer payload. After a gondola is no longer serviceable or repairable, all material would either be salvaged or sent for recycling.

2.2.1 Launch Operations

Selecting launch sites includes a review of test plan and flight requirement documents for the specific mission. Launch operations would occur at existing airfields and airports in the Proposed Action area. Figure 2-1 shows the locations of potential launch sites. Possible launch sites would be chosen based on the following:

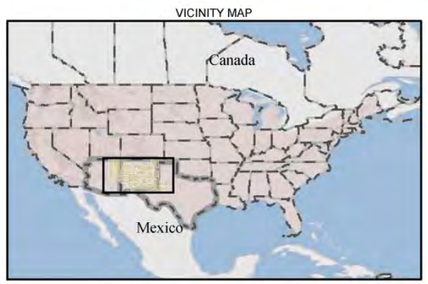
- Security of the location (fenced, restricted access)
- Areas having a hangar (to integrate the R&D payload) (structural modifications will not be made to hangars)
- Weather conditions (flights can only occur during clear conditions with thin clouds and low surface winds)



LEGEND
- INTERSTATE
- HIGHWAY
- MAJOR ROAD
- STATE IN WHICH PROPOSED ACTION WOULD OCCUR
- STATE BOUNDARY
- COUNTY
- AFFECTED COUNTY
- POSSIBLE LAUNCH SITE
- AIRPORTS WITHIN AFFECTED COUNTIES

Sources:
1. ESRI, 2009, Street Map
2. ESRI, 299, North American Dataset

VICINITY MAP



N

0 25 50
Miles

FIGURE 2-1
POTENTIAL LAUNCH SITES AND OTHER AIRPORT LOCATIONS IN AFFECTED COUNTIES
ENVIRONMENTAL ASSESSMENT,
BALLOON LAUNCH AND LANDING OPERATIONS,
AIR FORCE RESEARCH LABORATORY
KIRTLAND AIR FORCE BASE

CH2MHILL

\\BALDUR\PROJ\AFRL_396452\MAPFILES\EIS\FIG2-1_LAUNCH_SITES.MXD TMCBROOM 2/17/2011 09:06:10

THIS PAGE INTENTIONALLY LEFT BLANK

Prior to specific balloon launch events, the AFRL/RV balloon technicians will contact the Kirtland AFB Cultural Resources Manager to coordinate landings and avoidance of identified historic properties. See Section 4.7 for additional discussion of procedures to avoid sensitive cultural resources and compliance with NHPA.

Prior to the flight, the AFRL/RV balloon staff meteorologist would calculate the projected trajectory and determine the go or no-go status of the balloon operation using weather modeling tools, including historical climate data, data from National Oceanic and Atmospheric Administration (NOAA), and USAF Weather Agency weather models. If winds, humidity, air quality, or temperature were not ideal, launch operations would not be initiated. Preferred weather conditions during flight are based on customer requirements; however, several minimal criteria must be met, including no precipitation, less than 50 percent cloud cover, and reasonable wind speeds.

The AFRL/RV balloon staff meteorologist would use weather balloon soundings from major regional airports to approximate ascent and descent wind profiles. The weather balloon soundings would provide the flight director with information to predict the resulting trajectory and ability to bring the system down in a safe area.

Launches would require the use of several vehicles, such as a crane launch vehicle, helium trailers, and a launch-restraint vehicle. The balloon and equipment would be laid out on a launch pad or runway, and all equipment and systems would be tested. The balloon would then be inflated with helium and launched. All vehicles would stay on paved or hard-packed surfaces during the entire launch. Operations would generally occur during hours when other air traffic is light. FAA notifications and typical flight plans would be required for air safety.

2.2.2 Flight, Termination, and Landing Operations

The mission duration, floating, and terminating altitude would be coordinated with the R&D team and managed by the flight director. A semi-truck trailer would be set up for the flight director and R&D team at a location along the flight path (not necessarily co-located with launch sites) to allow visual observations of the balloon and equipment at all times during the flight. Flight operations would be conducted with reference to project-specific checklists and procedures. Flight safety would always take priority over the experiment operations. The flight director would have sole responsibility for all flight decisions.

Balloon flights would be equipped with remote command systems that provide the flight director redundant termination capability. In addition, other systems are included on balloon flights that meet FAA requirements for position tracking, reporting, and visibility. The balloon systems are equipped with valve and ballast systems that would allow the flight director to command balloon ascent, descent, velocity, and direction.

Wind direction and speed data would be collected and transmitted by the balloon on-board subsystems as it ascends through the atmosphere. The wind directions and speeds recorded at the various altitudes would be used by the AFRL/RV balloon staff meteorologist, along with data from NOAA and USAF, to approximate the wind directions and speeds. This information would also be used to assist in the prediction of the balloon trajectory and landing sites. Additionally, the AFRL/RV would maintain a global positioning system (GPS) track on the balloon throughout the flight. Tracking the balloon would be

accomplished by importing real-time GPS coordinates transmitted from the balloon to the ground station. These coordinates would be updated every second and would be accurate to within 30 feet.

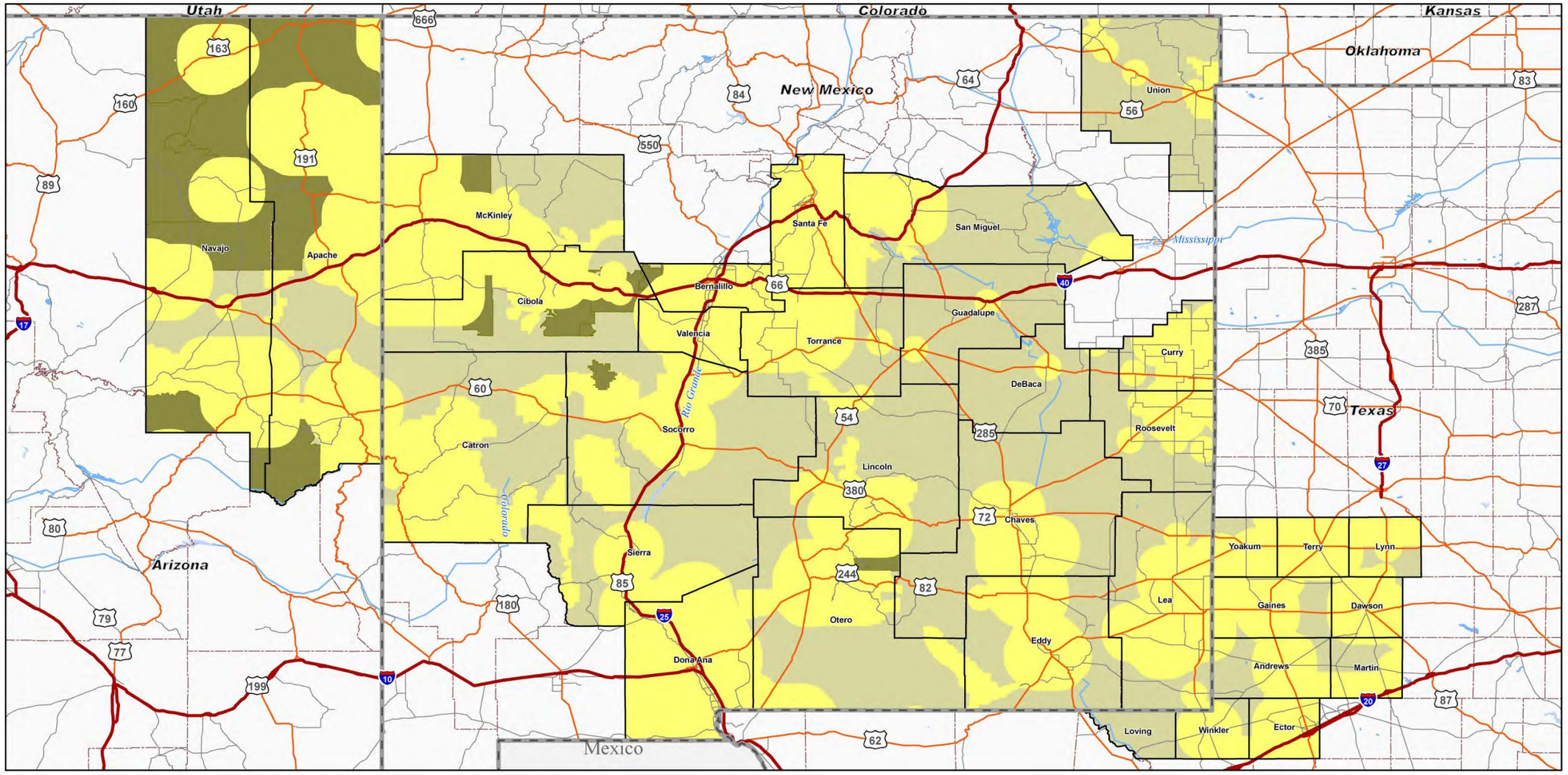
Within 30 minutes prior to terminating the flight, the landing area would be identified; and landing operations would be coordinated with FAA, and air traffic authorities, as necessary. The balloon would be lowered by releasing helium to the balloon release altitude. Then the flight would be terminated by remote triggering an S-68 2-grain squib, a standard device for explosive-controlled release of the gondola from the balloon. The gondola would be slowed by parachute, and the descent would not exceed 30 feet per second. The impact would be absorbed by cardboard crush panels on the gondola. This method would allow for the gondola to be precision-released and to land in a defined area of impact.

Flights would not be terminated within 10 miles of a town or city and near an unpaved road, whenever possible. Steps would be taken to place the deflated balloon envelope and gondolas in open fields. Landing sites would be planned to avoid Wilderness Areas, Native American tribal land, surface water bodies, mountainous areas, national parks, state parks, World Heritage Sites, and other cultural and natural resources to minimize environmental impacts, prevent damage to the balloon assembly, and facilitate recovery. Figure 2-2 shows the area of potential landing sites along with the exclusion zones that do not meet the landing criteria.

Extensive weather monitoring and GPS tracking during the operation would result in efficient and effective landing of the balloon and gondola, and avoidance of the exclusion zones. Since 2007, more than 25 similar commanded landing operations have occurred using these procedures, none of which have occurred in populated or otherwise excluded ground locations.

2.2.3 Recovery Operations

Three vehicles from Kirtland AFB would travel to the landing area to recover the balloon envelope, parachute, payload, and gondola. The recovery vehicles include a four-wheel-drive, 2.5-ton knuckle crane; a flat-bed truck to transport the balloon; and a standard four-wheel-drive pickup. Figure 2-3 shows an example of a typical knuckle crane performing recovery operations of a gondola. The balloon envelope typically lands within 10 miles of the gondola landing area. The AFRL/RV would gain access to the area from the appropriate landowner and recover the materials. Coordination with landowners; federal, state, and local agencies; and tribes would occur, as discussed in Sections 2.6 and 4.7, and the SOP for Protection of Historic Properties (see Appendix B). Everything related to the operation would be removed from the recovery site, and the disturbed area would be restored in coordination with land owners, tribes, and agencies.



LEGEND

- EXCLUSION ZONE WITHIN AFFECTED COUNTIES
- STATE IN WHICH PROPOSED ACTION WOULD OCCUR
- STATE BOUNDARY
- COUNTY
- INTERSTATE
- HIGHWAY
- MAJOR ROAD
- MAJOR RIVERS
- LAKE
- RESERVOIR
- TRIBAL LANDS
- AFFECTED COUNTY

VICINITY MAP

N

0 25 50
Miles

FIGURE 2-2
EXCLUSION ZONES IN AFFECTED COUNTIES
ENVIRONMENTAL ASSESSMENT,
BALLOON LAUNCH AND LANDING OPERATIONS,
AIR FORCE RESEARCH LABORATORY
KIRTLAND AIR FORCE BASE

\\BALDUR\PROJ\AFRL_396452\MAPFILES\EIS\FIG2-2_EXCLUSION_ZONE.MXD TMCBROOM 2/17/2011 09:00:13

CH2MHILL

THIS PAGE INTENTIONALLY LEFT BLANK

FIGURE 2-3
Knuckle Crane Retrieving a Gondola and Payload

2.3 No Action Alternative

Under the No Action Alternative, AFRL/RV would not perform high-altitude R&D balloon operations. Instead, equipment would be tested in existing labs, attempting to simulate near-space conditions. It is not possible to duplicate all of the conditions found in the stratosphere, and laboratory experiments cannot be used in atmospheric research. This alternative would not allow the AFRL/RV to fulfill their mission to support programs that are critical to the long-term national defense posture of the United States.

2.4 Alternatives Considered but Eliminated

This EA analyzes only the Proposed Action and the No Action Alternatives. The following platform and site alternatives were considered by AFRL/RV but eliminated from consideration because they would not meet the project's selection criteria. Consequently, their environmental impacts are not addressed in this EA.

2.4.1 Alternative Platforms

Using a platform other than balloons, such as rockets, airplanes, or satellites was considered. Small rockets have historically been used for this type of research; however, rockets are incapable of loitering, and landing impacts are more severe than balloon operations. Airplanes would not provide sufficient loiter and do not allow a wide range of operation configurations (length of flight, R&D equipment, and test requirements) to accommodate specific R&D needs. Furthermore, rockets and airplanes would have to operate in existing military test airspace, much of which is approaching air-space saturation and would not allow for quick availability of flights. Satellites would be prohibitively expensive, would not provide quick availability for flights, and do not allow reuse of the R&D payload. Consequently, alternative platforms would not meet the selection criteria and were not carried forward for further analysis.

2.4.2 Alternative Launch and Landing Sites

Other launch and landing sites were considered but would require long-distance travel (more than a 10-hour drive from Kirtland AFB) to recover the equipment, would not provide the required weather conditions, or would not have existing airports or airfields for launch locations. Consequently, alternative launch and landing sites would not meet the selection criteria and were not carried forward for further analysis.

2.5 Comparison of Alternatives

Table 2-1 compares the impacts on environmental resources analyzed in this EA for the Proposed Action and No Action Alternatives.

TABLE 2-1
Summary of Potential Environmental Consequences
Environmental Assessment, Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico

Resource	Proposed Action	No Action Alternative
Land Use	No impact	No impact
Airspace Management	Less than significant	No impact
Air Quality	Less than significant	No impact
Safety and Occupational Health	Less than significant	No impact
Hazards and Hazardous Materials	Less than significant	No impact
Biological Resources	Less than significant	No impact
Cultural Resources	Less than significant[a]	No impact
Water Resources, Floodplains, and Wastewater	Less than significant	No impact
Soils	Less than significant	No impact
Socioeconomics	Less than significant	No impact
Environmental Justice	Less than significant	No impact

[a]No adverse effects if SOP (see Appendix B) is implemented for the life of the project.

2.6 Agency and Landowner Coordination

Preliminary coordination was initiated with tribes and federal agencies identified as owning land or having jurisdiction in the Proposed Action area. Information regarding sensitive resources and property access procedures was requested. Appendix A provides a list of tribes and agencies that received letters mailed in December 2009, January 2010, and August–September 2010. Follow-up calls were made to the agencies that did not respond by the requested dates (08 January 2010, 12 February 2010, and 02 October 2010, respectively). Appendix B provides the responses received. Seventeen responses were received.

Responses generally related to the following:

- Providing additional information, or sources for information.
- Requesting notification/coordination prior to operations after site-specific locations have been determined.
- Providing specific contact information and procedures for property access.

Areas that were specifically mentioned for avoidance included prohibited or restricted motorized or offroad entry on Bureau of Land Management- and Bureau of Reclamation-managed lands, Tanner Wash Area of Critical Environmental Concern in Arizona, and Pecos National Historical Park in Pecos, New Mexico. The Arizona State Historic Preservation Officer concurred with the determination of "No Historic Properties Affected" contingent upon the agreement of the Arizona Apache Tribes. Coordination letters were sent to the Native American tribes in the affected Arizona counties, to include Apache Tribes.

As a result of the preliminary coordination, AFRL/RV identified exclusion areas to avoid for landings (Figure 2-2). Prior to each balloon operation, AFRL/RV would conduct pre-operation reviews of exclusion areas to avoid during landings. AFRL/RV would notify and coordinate with the affected land manager, tribal official, or landowner for recovery operations. Specific notification requests provided during preliminary coordination would be made prior to recovery. For example, as indicated in the response from the Santa Ana Tribal Police, if landings occur on Santa Ana tribal lands, AFRL/RV would contact the tribal police for an escort to the landing site.

Additionally, AFRL/RV and the Kirtland AFB Cultural Resources Manager sent an additional round of Section 106 correspondence in January 2011. The letter requested concurrence with the SOP for the Proposed Action. The "Standard Operating Procedures for Protection of Historic Properties Specific for the Balloon Launch and Landing Events, Air Force Research Laboratory High-Altitude Balloon Program" outlines conditions for minimizing potential impacts to historic properties. Regarding balloon landing and recovery activities, the SOP calls for avoidance [36 CFR 800.5(b)] of known historic properties and mitigation [36CFR 800.5(a)] in case of damage to historic properties inadvertently discovered during landing and recovery activities. The SOP also includes notification of landowners and land managers for balloon recovery. Follow up calls to nonrespondents were made in March 2011 after the comment period. In all, there were 10 responses. The letters, SOP, and coordination tracking table are included in Appendix B.

Coordination for compliance with NHPA Section 106 was considered complete as of April 2011, but implementation of the SOP is required for the 20-year life of this project to ensure continued compliance under NHPA. The SOP will be added to the Kirtland AFB cultural resources management plan.

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 3

Affected Environment

This section presents specific information about the environment that could be adversely affected as a result of implementing the Proposed Action. Potential impacts resulting from the Proposed Action are described in detail in Section 4.

3.1 Land Use

Numerous land management agencies, Native American tribes, and private entities manage lands within the Proposed Action area (see Figure 3-1). Each of these organizations has specific land use designations under their jurisdiction. The major land management agencies present in the affected counties of New Mexico, Arizona, and Texas are described below and are listed in order of their predominance.

- **Bureau of Land Management (BLM) (approximately 9.9 million acres in the affected counties of the Proposed Action Area):** The BLM is responsible for managing and conserving resources on 253 million acres in the United States, including many sensitive areas that restrict motorized vehicle access. Examples of these restricted areas are Wilderness Areas, Wilderness Study Areas, land units belonging to the National Landscape Conservation System (for example, National Conservation Areas), Areas of Critical Environmental Concern, and Special Recreation Management Areas. In addition, other areas on BLM lands that would not be suitable for balloon operations would include areas with oil and gas development and utility right-of-ways (Spencer, 2010).
- **U.S. Forest Service (Forest Service) (approximately 7.5 million acres in the affected counties of the Proposed Action Area)**: The Forest Service manages public lands in national forests and grasslands, which encompass 193 million acres in the United States. The mission of the Forest Service is to protect and manage the national forests and grasslands so they best demonstrate the sustainable multiple-use management concept. Similar to the BLM, the Forest Service also manages lands restricted to motorized vehicle access, including Wilderness Areas, roadless areas, wild and scenic rivers, and National Landscape Conservation Areas.
- **Native American Tribal Land (approximately 11.6 million acres in the affected counties of the Proposed Action Area):** Tribal lands are areas managed by a Native American tribe recognized under the U.S. Bureau of Indian Affairs. Recognized Native American tribes possess sovereignty; consequently, laws on tribal lands may vary from the surrounding area. The tribal council has jurisdiction over tribal lands.
- **National Park Service (NPS) (approximately 550 thousand acres in the affected counties of the Proposed Action Area):** The NPS is responsible for managing 392 national parks, monuments, trails, historic sites, and Wilderness Areas throughout the United States. The NPS also helps administer the National Landscape Conservation Areas. The mission of the NPS is to preserve the natural and cultural resources and values of the national park system for the enjoyment, education, and inspiration of this and future generations.

- **Bureau of Reclamation (approximately 49 thousand acres in the affected counties of the Proposed Action Area)**: The Bureau of Reclamation manages, develops, and protects water and related resources for the American public. It is the nation's largest wholesale water supplier, operating 348 reservoirs.
- **U.S. Fish and Wildlife Service (USFWS) (approximately 360 thousand acres in the affected counties of the Proposed Action Area)**: The USFWS manages wildlife refuges and Wilderness Areas for the conservation, management, and restoration of fish, wildlife, and plant resources and their habitats for the benefit of present and future generations.
- **Department of Defense (DoD) (approximately 3 million acres in the affected counties of the Proposed Action Area):** The DoD, including the U.S. Air Force and Army, manage land resources in order to train the war fighter and test battlefield assets. Land use categories include training areas, weapons ranges, large- and small-arm impact areas, landing strips, and natural resource conservation areas.
- **State and County Lands (approximately 40 million acres in the affected counties of the Proposed Action Area are state/county and private/urban):** New Mexico, Arizona, Texas, and local counties manage large areas of land for various purposes, including state parks, regional parks, and unincorporated areas.
- **Private Land and Urban Areas (see previous bullet):** A number of municipalities are located throughout the Proposed Action area. These areas range from large cities, such as Albuquerque, New Mexico, to small towns. Also, a number of industrial as well as agricultural and ranch lands are located throughout the region.

3.1.1 New Mexico

All of the above-mentioned land management entities are present in the affected New Mexico counties. The largest agency present in the New Mexico Proposed Action area is the BLM, followed by the Forest Service. Two large U.S. Army installations, White Sands Missile Range and Fort Bliss, are located in the Proposed Action area. Approximately 1.2 million acres of Wilderness Area are in the Proposed Action area, managed by the BLM, NPS, Forest Service, or USFWS. The NPS also manages eight parks, monuments, and trails within the New Mexico Proposed Action area.

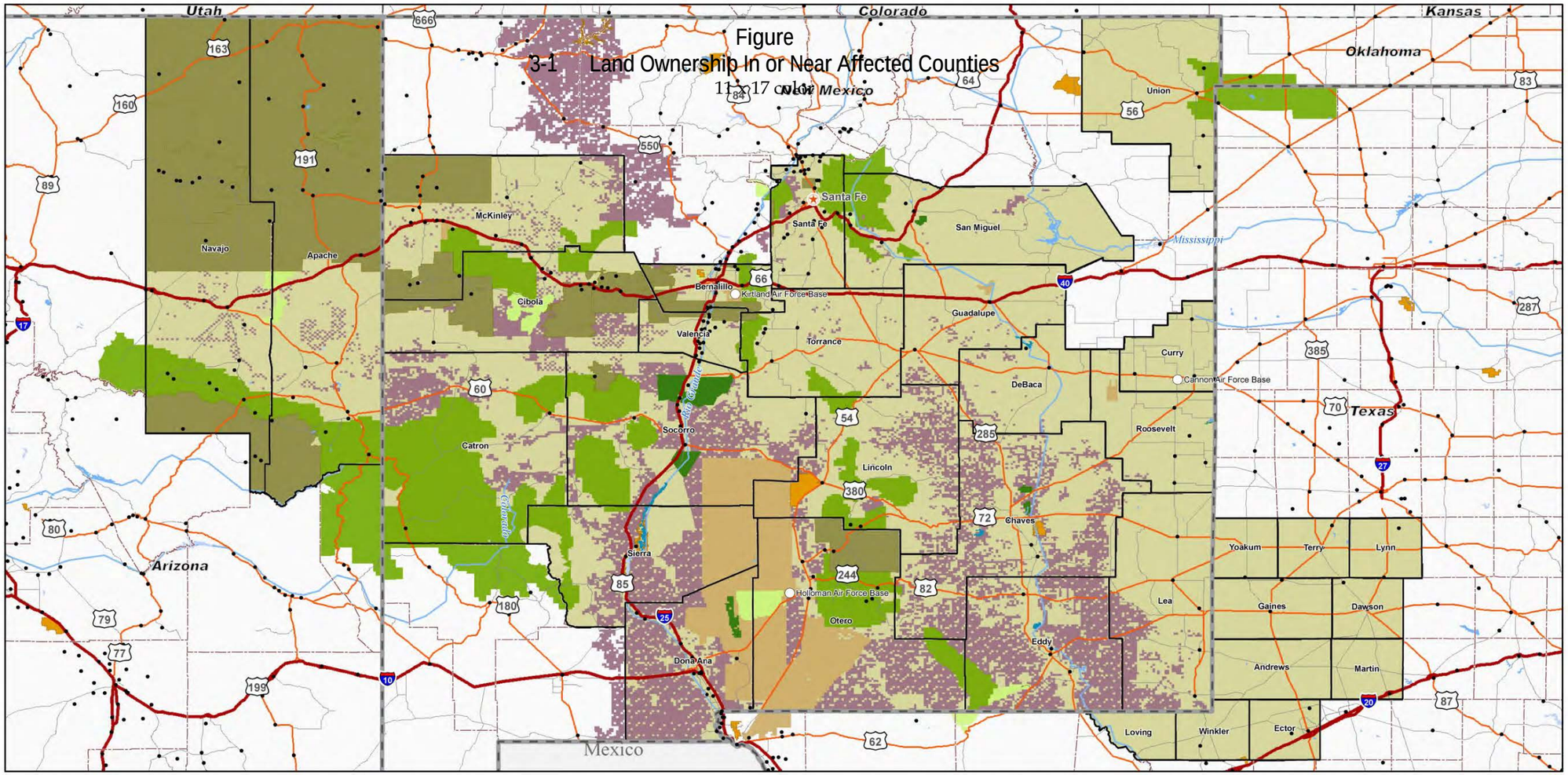
3.1.2 Arizona

The dominant land management agencies in the affected Arizona counties are Native American tribes, including the Navajo and Hopi Indian Reservations. Approximately 85,000 acres of Wilderness Areas are managed by the Forest Service and NPS within the Arizona Proposed Action area. The NPS also manages one national park and two monuments within the Arizona Proposed Action area.

Texas

No federal land management agencies or Native American tribes are present in the affected Texas counties. A few state and county parks are located throughout the Texas Proposed Action area. The majority of the land is privately owned ranch and agricultural land.

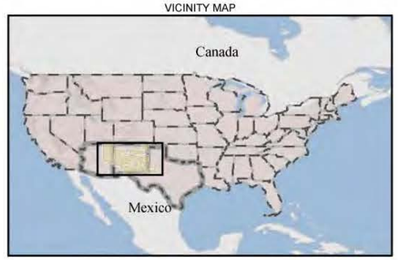
Figure
3-1 Land Ownership In or Near Affected Counties
11 x 17 color



LEGEND

- AIR FORCE BASE LOCATION
- POPULATED AREA 500 OR GREATER
- STATE IN WHICH PROPOSED ACTION WOULD OCCUR
- STATE BOUNDARY
- COUNTY
- INTERSTATE
- HIGHWAY
- MAJOR ROAD
- LAKE
- RESERVOIR
- MAJOR RIVERS
- TRIBAL LANDS
- BUREAU OF LAND MANAGEMENT
- BUREAU OF RECLAMATION
- U.S. DEPARTMENT OF DEFENSE
- U.S. FOREST SERVICE
- U.S. FISH AND WILDLIFE SERVICE
- NATIONAL PARK SERVICE
- STATE PARK OR FOREST
- AFFECTED COUNTY

VICINITY MAP



N

0 25 50
Miles

FIGURE 3-1
LAND OWNERSHIP IN OR NEAR AFFECTED COUNTIES
ENVIRONMENTAL ASSESSMENT,
BALLOON LAUNCH AND LANDING OPERATIONS,
AIR FORCE RESEARCH LABORATORY
KIRTLAND AIR FORCE BASE

CH2MHILL

\\BALDUR\PROJ\AFRL_396452\MAPFILES\EIS\FIG3-1_LANDOWNERS.MXD TMCBROOM 8/4/2010 08:58:27

THIS PAGE INTENTIONALLY LEFT BLANK

3.2 Airspace Management

Navigable airspace is managed in the interests of the private and commercial aircraft operators, users of commercial air services, and government agencies, including the DoD. The FAA is responsible for regulating and managing the nation's airspace. The FAA regulations designate airspace assignments, prescribe the requirements for use of restricted and prohibited areas, and specify general operating and flight rules for aircraft. The FAA regulations also prescribe the allowable activities regarding launch, flight, and recovery of unmanned balloons (14 CFR Part 101, "Moored Balloons, Kites, Unmanned Rockets and Unmanned Free Balloons," Subpart B, "Moored Balloons and Kites").

Two international airports are located within the Proposed Action area, Albuquerque International and Las Cruces International in New Mexico. Additionally, two DoD airfields, one at Holloman AFB and one at Cannon AFB, are located in the Proposed Action area in New Mexico. Kirtland AFB shares runways with Albuquerque International. A total of 44 DoD, municipal, county, and regional airports and airfields are located within the Proposed Action area (see Figure 2-1).

3.3 Air Quality

This section provides an overview of the regional air quality for the areas with the potential balloon launch and landing sites. The information presented in this section includes a discussion of existing meteorological conditions, applicable federal and state regulations, regional air quality management programs, and the current air quality conditions.

3.3.1 Regional Climate

New Mexico

New Mexico's climate ranges from arid to semi-arid, with a wide range of temperatures. Average January temperatures vary from about 35 degrees Fahrenheit (°F) in the north to about 55°F in the southern and central regions. July temperatures range from around 78°F at high elevations to around 92°F at lower elevations. Data from 1971 through 2000 indicate average annual precipitation was 9.5 inches at Albuquerque; at higher elevations, the annual precipitation averaged over 20 inches. Nearly one-half the annual rainfall comes during July and August, and thunderstorms are common in the summer. Snow is much more frequent in the north than in the south.

Arizona

The climate of the Apache and Navajo Counties in Arizona is semi-arid or sub-humid with hot summers and cold winters. Temperatures can reach over 95°F during summer months in Apache, and can be as low as 15°F during winter months in Navajo. The dry climate is a consequence of the low relative humidity and abundant sunshine that are prevalent for much of the year. Relative humidity might fall as low as 10 percent in June. Typically, 37 to 48 percent of the total annual precipitation falls within the 3-month period from July to September. This often occurs in the form of monsoons or torrential thunderstorms.

Texas

The climate in the southwest portion of Texas, adjacent to New Mexico, is typical of a semi-arid region, with an annual precipitation of less than 15 inches. Daytime average high temperatures reach 80 to 95°F in the summer and drop to average low temperatures of 30°F to 40°F in the winter. The average annual snowfall is 4.3 inches. Cloud cover is minimal, with an annual percent of possible sunshine at 73 percent.

The prevailing wind direction in this area is from the southeast. During the late winter and early spring months, blowing dust occurs frequently. The flat plains of the area, with only grass as vegetation, offer little resistance to the strong winds.

3.3.2 Current Air Quality Conditions

Attainment Status

New Mexico. The potential balloon launch and landing locations cover 21 counties in New Mexico. Except Doña Ana County and Bernalillo County, the areas are in attainment or unclassified for all criteria pollutants under National Ambient Air Quality Standards (NAAQS).

Bernalillo County, where Kirtland AFB is located, is designated as attainment or unclassified for ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), carbon monoxide (CO), particulate matter with aerodynamic diameter less than 10 micrometers (PM_{10}), and particulate matter with aerodynamic diameter less than 2.5 micrometers ($PM_{2.5}$). The only pollutant subject to a limited maintenance plan (LMP) in Bernalillo County is CO (U.S. Environmental Protection Agency [EPA], 2009a).

Bernalillo County is currently under an LMP for CO, approved by EPA on 21 July 2005. Ambient CO levels are no longer a major concern in Bernalillo County (New Mexico Environment Department [NMED], Air Quality Bureau, 2009).

Doña Ana County, New Mexico, which lies on the border of Texas and New Mexico, was designated nonattainment for PM_{10} by the EPA in 1991. The exceedance of the PM_{10} concentrations is attributed to the naturally occurring rural fugitive dust (NMED, 1991).

In March 2008, EPA revised the 8-hour O_3 standard from 0.08 to 0.075 parts per million (ppm). Monitoring data during 2006 through 2008 from Sunland Park, New Mexico, showed violations of the revised O_3 standard. As a result, in December 2009, the governor of New Mexico submitted recommendations to redesignate Sunland Park, New Mexico, as nonattainment of the 8-hour O_3 standard to EPA. Until EPA acts on the governor's redesignation request, the Sunland Park area is considered in attainment for the 8-hour O_3 NAAQS.

Arizona and Texas. The launch and landing sites in Arizona and Texas are in attainment for NAAQS for the criteria pollutants. Table 3-1 summarizes the NAAQS and the corresponding attainment status for the Proposed Action areas.

Air Monitoring Data

New Mexico. Because Bernalillo County and Doña Ana County are designated as maintenance or nonattainment areas under NAAQS, maximum monitored concentrations of O_3, nitrogen oxide (NO_x), CO, PM_{10}, and $PM_{2.5}$ in these two counties during 2006 through

2008 are summarized and presented in Table 3-2. The monitored maximum concentrations of CO and NO_x are below the NAAQS from all monitoring stations in these two counties.

The measured maximum 8-hour O_3 concentrations in the areas were above the NAAQS. The highest O_3 concentrations were measured at the 5935a Valle Vista, Sunland Park in New Mexico, with the 3-year average of the fourth highest 8-hour O_3 concentration exceeding the NAAQS. Because of the violation of O_3 concentrations in Sunland Park, the Governor of New Mexico has recommended that the EPA redesignate the Sunland Park area from attainment to nonattainment for 8-hour O_3 (NMED, 2009).

TABLE 3-1
Bernalillo County Attainment Status as of January 2010
Environmental Assessment, Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico

			Federal Attainment Status		
Pollutant	**Averaging Time**	**NAAQS**	**Bernalillo County, New Mexico**	**Anthony, New Mexico**	**All Other Areas**
O_3	8-hour	0.075 ppm	Attainment	Attainment	Attainment
CO	8-hour 1-hour	9.0 ppm 35.0 ppm	Attainment/Maintenance	Attainment	Attainment
NO_2	Annual	0.053 ppm	Attainment	Attainment	Attainment
SO_2	Annual 24-hour	0.03 ppm 0.14 ppm	Attainment	Attainment	Attainment
PM_{10}	24-hour	150 $\mu g/m^3$	Attainment	Non-attainment	Attainment
$PM_{2.5}$	Annual Arithmetic Mean 24-hour	15 $\mu g/m^3$ 35 $\mu g/m^3$	Attainment	Attainment	Attainment

Sources: EPA, 2009a

Notes:

NA = not applicable
$\mu g/m^3$ = micrograms per cubic meter

Maximum 24-hour PM_{10} emissions exceeded the NAAQS for each year in 2006 through 2008 at monitoring stations in Anthony and Las Cruses in Doña Ana County. These two sites have historically high PM_{10} concentrations exceeding the NAAQS. The NMED Air Quality Bureau's analysis of wind data and other information regarding conditions during the exceedances indicated that most of the exceedances were caused by high winds, which lift and carry dust from exposed dry soil. In response to the exceedances, NMED, along with the city of Las Cruces and Doña Ana County, developed and submitted to EPA the *Doña Ana County Natural Events Action Plan for High Wind Events* in 2000 and a re-evaluation of the plan in 2005 (NMED, 2000a and 2005, respectively). The plan includes agreements between primary stakeholders (such as the New Mexico State Highway and Transportation Department and New Mexico State University) and NMED, dust ordinances on both the city

and county level, educational outreach tools, documentation of exceedances, and tools to minimize the public's exposure to PM_{10}.

TABLE 3-2
Air Monitoring Data Summary – New Mexico
Environmental Assessment, Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico

Pollutant	Averaging Time	2006	2007	2008
O_3 (ppm)	8-hour (first maximum)	0.089	0.085	0.08
NO_x (ppm)	Annual	0.016	0.015	0.012
CO (ppm)	1-hour (first maximum)	4.6	7.5	6.5
	8-hour (first maximum)	2.8	3.6	2.4
PM_{10} ($\mu g/m^3$)	24-hour (first maximum)	502	328	524
$PM_{2.5}$ ($\mu g/m^3$)	24-hour (first maximum)	33.6	36.7	46.6
	Annual	9.39	9.85	11.86

Source: EPA, 2009b

Arizona. Three monitoring stations in Apache and Navajo Counties measure PM_{10} and O_3 concentrations. Table 3-3 shows the maximum O_3 and PM_{10} concentrations measured at these three stations. One time the maximum 24-hour PM_{10} concentration measured higher than 150 ppm. A violation to the PM_{10} NAAQS is when the 24-hour PM_{10} NAAQS is exceeded more than once per year averaged over 3 consecutive years. Therefore, no violation of the 24-hour PM_{10} NAAQS occurred in the Proposed Action area, because the monitoring data indicates that the second highest $PM_{2.5}$ 24-hour concentrations are all below NAAQS for the last 3 years in these two counties.

The maximum 8-hour O_3 concentrations were above the NAAQS. The fourth highest O_3 concentrations are all below the 8-hour O_3 NAAQS. Therefore, by definition, the area is not in violation of the O_3 standards.

TABLE 3-3
Air Monitoring Data Summary – Arizona
Environmental Assessment, Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico

Pollutant	Averaging Time	2006	2007	2008
O_3 (ppm)	8-hour (first maximum)	0.085	0.074	0.075
PM_{10} ($\mu g/m^3$)	24-hour (first maximum)	161	114	79

Source: EPA, 2009b

Texas. Among the 10 counties in Texas that might be affected by the Proposed Action, only one monitoring station in Odessa, Ector County, is measuring $PM_{2.5}$ concentrations. The annual $PM_{2.5}$ concentrations are all below the NAAQS. In 2008, one time the maximum 24-hour $PM_{2.5}$ concentration was greater than the NAAQS. The 3-year average of the 98th percentile of the 24-hour $PM_{2.5}$ concentrations is below the NAAQS. Therefore, there has been no violation of $PM_{2.5}$ NAAQS in the potential balloon launch and landing areas in Texas.

3.3.3 Greenhouse Gas Inventory

New Mexico

In 1990, New Mexico emitted greenhouse gases (GHG) in the amount of 47.6 million metric tons of carbon dioxide equivalent ($MMTCO_2E$). In 2000, GHG emissions increased to 62.0 $MMTCO_2E$, an overall increase of 30 percent from 1990 to 2000.

The largest contributor to New Mexico's GHG emissions is the energy sector, which accounted for 90 percent of the gross GHG emissions in 2000. Between 1990 and 2000 alone, the energy sector contribution increased by 18 percent. Within the energy sector, electricity production is the largest single source of emissions, contributing to 40 percent of gross emissions for 2000, followed by the fossil fuel industry, accounting for 24 percent of gross emissions in 2000 (The Center for Climate Strategies, 1995).

Arizona

In 1990, Arizona emitted GHGs in the amount of 66.7 $MMTCO_2E$. In 2000, emissions were 92.3 $MMTCO_2E$, an overall increase of 38 percent. Between 1996 and 2000, emissions from industrial processes and energy use both increased greatly (147 percent and 36 percent, respectively), and emissions from agriculture increased slightly (2 percent). Emissions from waste decreased 10 percent; the sink from land use, land use change, and forestry stayed the same size.

The vast majority (97 percent) of Arizona's net emissions came from the burning of fossil fuels in 2000, primarily from the production of electricity (48 percent of net emissions in 2000) and transportation (38 percent in 2000). Other large sources were industrial process emissions (4 percent of net emissions in 2000) and agriculture (5 percent in 2000). Land use and forestry accounted for a sink equivalent to 7 percent of gross emissions (The Center for Climate Strategies, 2006).

Texas

Texas' GHG emissions increased from 178 million metric tons of carbon equivalent (MMTCE) in 1990 to 189 MMTCE in 1999, an increase of 6 percent. The principal GHG in Texas was carbon dioxide (CO_2), comprising 570 million metric tons (155.3 MMTCE) in 1990. Other emissions in 1990 included methane with 2.57 million metric tons (14.7 MMTCE), and 0.09 million metric tons of nitrous oxide (8.0 MMTCE).

The majority of CO_2 emissions were from fossil fuel combustion (96 percent), with the remainder due to land use change and forestry (3 percent), and cement manufacturing (1 percent). Sources of methane emissions include landfills (36 percent), domesticated animals (31 percent), oil and gas systems (26 percent), manure management (5 percent), rice cultivation (2 percent), and coal mining (less than 1 percent). Sources of nitrous oxide

emissions include adipic acid production (51 percent), agricultural soil management (45 percent), and manure management (4 percent) (EPA, 2010).

3.4 Safety and Occupational Health

Safety and occupational health are managed by Kirtland AFB and AFRL. All AFRL operations comply with FAA regulations and notifications. The AFRL complies with all applicable Occupational Health and Safety Administration regulations, as well as Air Force Occupational Safety and Health standards. The following Air Force-level safety and health operating instructions will be adhered to during the operation of the Proposed Action:

- AFI 91-202, The US Air Force Mishap Prevention Program
- AFI 91-204, Safety Investigations and Reports
- AFI 91-301, Air Force Occupational and Environmental Safety, Fire Protection, and Health (AFOSH) Program
- AFI 91-302, Air Force Occupational and Environmental Safety, Fire Protection, and Health (AFOSH) Standards
- AFOSH 91-501, Air Force Consolidated Occupational Safety Standard

Additionally, AFRL complies with specific Air Force Test Safety Review Instructions such as Air Force Materiel Command Supplement 1 and AFRL Instruction 91-101. Air Force test and safety plans are prepared for specific operations and are reviewed and approved by Kirtland AFB safety personnel prior to program execution. Since 2007, more than 25 similar balloon operations have occurred, none of which resulted in incidents affecting safety and occupational health.

3.5 Hazardous Materials and Hazardous Wastes

RCRA is the principal federal law governing the disposal and management of hazardous materials and wastes. RCRA defines hazardous wastes as materials that exhibit one of the four following characteristics: ignitability, corrosivity, reactivity, or toxicity (EPA, 2009b). Transportation of hazardous materials requires compliance with the U.S. Department of Transportation regulations provided in Title 49 CFR. The *377th Air Base Wing Hazardous Waste Management Plan* (Kirtland AFB, 2004) establishes policies, procedures, and responsibilities for all activities, and complies with environmental laws and regulations.

The National Priorities List (NPL) is the list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States. The NPL is intended primarily to guide EPA in determining which sites warrant further investigation.

3.5.1 New Mexico

Ten NPL sites are located in the affected New Mexico counties. These sites are associated with urban areas and mining sites (EPA, 2010). All of the NPL sites are located in the landing exclusion zone and away from potential launch sites.

3.5.2 Arizona

No NPL sites are located in the affected Arizona counties (EPA, 2010).

3.5.3 Texas

Four NPL sites are located in the affected Texas counties, all of which are located in Ector County and are associated with city of Odessa (EPA, 2010). All of the NPL sites are located in the landing exclusion zone and away from potential launch sites.

3.6 Biological Resources

3.6.1 Regional Plants and Wildlife

The major regional plant, animal, and microorganism communities that make up an area are referred to as "ecoregions." Instead of being defined by political boundaries, such as state lines, ecoregions are distinguished by their shared ecological features, climate, and plant and animal communities. Within an ecoregion, local densities of plants and animals might vary substantially, because not all areas provide equally suitable habitat (Campbell, 1993). The major ecoregions present in the affected counties of New Mexico, Arizona, and Texas are described below and are listed in order of their predominance:

- **Western Short Grassland** is the second largest grassland ecoregion in North America. It is distinguished from other grasslands by low rainfall, relatively long growing seasons, and warm temperatures. The predominant vegetation includes sod-forming grasses, such as blue grama (*Bouteloua gracilis*) and buffalo grass (*Buchloe dactyloides*). The Western Short Grassland is among the richest regions in the United States for species of butterflies, birds, and mammals, although the region also contains the fastest declining bird populations on Earth. Major sources of disturbance are drought and grazing by wildlife and livestock (Cook et al., 2001).

- **Arizona Mountain Forest** consists mainly of steep foothills and mountains, but includes some deeply dissected plateaus. Vegetation zones in this region resemble the Rocky Mountain Life Zones (see Colorado Rocky Forests below); however, forests in this region are too far south to support distinct alpine communities. The growing season is typically less than 75 days with occasional nighttime frosts. Common plant species include Chihuahua pine (*Pinus leiophylla*), ponderosa pine (*Pinus ponderosa*), dwarf juniper (*Juniperus communis*), and quaking aspen (*Populus tremuloide*). This region has high levels of bird, mammal, and insect species richness. The major sources of disturbance in the region include livestock grazing, road building, fire suppression, and logging (DellaSalla, 2001).

- **Colorado Plateau Shrublands** are often referred to as "the land of color and canyons" and are epitomized by the Grand Canyon. It is categorized by its high elevation and arid to semi-arid climate. The region has conspicuous but irregular vegetation zones. These zones include woodland, which is dominated by pinion pine (*Pinus edulis*) and juniper (*Juniperus* spp.), and mountain, which is dominated by lodgepole pine (*Pinus contorta*) and quaking aspen. The major sources of disturbance in the region include livestock grazing, mining, agriculture, oil and gas exploration, and urbanization (Primm, 2001a).

- **The Chihuahuan Desert** has been sheltered from the influence of other arid regions, such as the Sonoran Desert, by the large mountain ranges of the Sierra Madres. This isolation has allowed the evolution of many endemic species, most notable the high number of endemic plants. The region also sustains some of the last remaining populations of Mexican prairie dogs (*Cynomys mexicanus*), wild American bison (*Bison bison*) and pronghorn antelope (*Antilocapra sonoriensis*). The dominant plant species is creosote (*Larrea tridentate*); however, a high degree of diversity and large number of endemic cacti exists throughout the region as well. The region supports large numbers of wide-ranging mammals and birds and is strongly associated with its reptile populations. The major sources of disturbance in the region include agriculture, livestock grazing, fire, resource extraction, and the depletion and diversion of water resources (Williams et al., 2001).

- **Colorado Rocky Forest** is a massive region dominated by the highest mountains of the Rockies. Dramatic vertical zonation of the vegetation and associated wildlife categorizes the region. These zones are commonly referred to as "The Rocky Mountain Life Zones" and are divided into the following categories: plains (4,000 to 6,000 feet), foothills (6,000 to 8,000 feet), montane (8,000 to 10,000 feet), subalpine (10,000 feet to timberline), and alpine (above timberline) (Pesman, 1992). The dominant vegetation type is coniferous forest and is composed of bristlecone pine (*Pinus aristata*), ponderosa pine, and quaking aspen. In addition to expansive conifer forest, the region also contains mountain meadows, foothill grasslands, and riparian woodlands. The Colorado Rockies might have all the wildlife species that were present prior to European settlement, including elk (*Cervus elaphus*), black bear (*Ursus amerincanus*), and lynx (*Lynx Canadensis*). Logging, mining, oil and gas development, and recreational-residential construction are all major threats to the region (Primm, 2001b).

- **Central and Southern Mixed Grasslands** contain the highest floral complexity of any North American grassland. Typical grasses include little bluestem (*Schyzachrium scoparium*), western wheatgrass (*Agropyron smithii*), and grama (*Bouteloua cartipendala*). These species mix with taller grasses in the wetter areas and give way to shorter grasses in the drier areas. The region also contains a large concentration of reptile species and is an important breeding area for endemic bird species and stopover site for migratory birds. The major disturbance in the region results from drought, grazing by wildlife and livestock, and fire (Chaplin et al., 2001).

- **Sierra Madre Oriental Pine Oak Forest** represents an island of temperate environments surrounded by more humid and tropical regions to the south, and desert regions to the north. This positioning has been a major factor contributing to the region's diversity and high number of endemic species. The dominant plant species include pines *(Pinus nelsonii, P. cembroides,* and *P. arizonica*) and oaks (*Quercus canstanea* and *Q. affinis*). The region is also recognized as having the highest diversity for the genus Agave. Numerous mammal and bird species wander the region. Centuries of logging and cultivation have almost eliminated native pine-oak forests of the Sierra Madre Oriental. Currently, principal threats include logging, resin extraction, and agricultural activities (Valero, 2001).

New Mexico

The dominant ecoregions present in the New Mexico Proposed Action area are Colorado Plateau Shrublands in the northwest, Arizona Mountain Forest in the west, Chihuahuan Desert in the south, and Western Short Grasslands in the east. Smaller areas of Colorado Rocky Forest can be found in San Miguel, Union, and Santa Fe Counties; and Sierra Madre Pine Oak Forest is found in Doña Ana and Otero Counties (National Geographic Society, 2001).

Arizona

Colorado Plateau Shrubland in the north and Arizona Mountain Forest in the south are the only two ecoregions occurring in the Arizona Proposed Action area (National Geographic Society, 2001).

Texas

Western Short Grassland dominates most of the Texas Proposed Action area; however, there are small portions of Chiuahuan Desert in Loving County, and Central and Southern Mixed Grassland in Dawson County (National Geographic Society, 2001).

3.6.2 Threatened and Endangered Species

Threatened and endangered species are federally protected plants and animals that are in danger of becoming extinct. The federal Endangered Species Act of 1973 requires federal agencies to avoid any actions that might jeopardize the existence of threatened or endangered species or destroy or adversely affect critical habitat of such species.

New Mexico

Approximately 56 threatened and endangered species listed are for the State of New Mexico; of these, approximately 21 endangered species and 12 threatened species exist in the Proposed Action area (USFWS, 2009). The highest concentrations of threatened and endangered species occur in Socorro, Catron, and Chaves Counties, respectively. Examples of some of the endangered species occurring in the Proposed Action area include the black-footed ferret (*Mustela nigripes*), least tern (*Sterna antillarum*), Pecos sunflower (*Helianthus paradoxus*), and southwestern silvery minnow (*Empidonax traillii*) (USFWS, 2009). See Appendix E for a detailed list of threatened and endangered species occurring in the affected New Mexico counties.

Arizona

Approximately 76 threatened and endangered species are listed for the State of Arizona; of these, five endangered species and seven threatened species reside in the Proposed Action area. The endangered species include the black-footed ferret, California condor (*Gymnogyps Californians*), gray wolf (*Canis lupus*), southwestern willow flycatcher (*Empidonax trailii extimus*), and the Peebles Navajo cactus (*Pediocactus peeblesianus*) (USFWS, 2009). See Appendix E for a detailed list of threatened and endangered species occurring in the affected Arizona counties.

Texas

Approximately 108 threatened and endangered species are listed for the State of Texas. Only one endangered species, the whooping crane (*Grus Americana*), and no threatened species

reside in the Proposed Action area (USFWS, 2009). See Appendix E for a detailed list of threatened and endangered species occurring in the affected Texas counties.

3.6.3 Migratory Birds

Migratory birds are of great ecological and economic value to this country and other countries. The Migratory Bird Treaty Act and EO 13186, "Responsibilities of Federal Agencies to Protect Migratory Birds," requires federal agencies to support migratory bird conservation. The National Defense Authorization Act of 2003 does authorize the Armed Forces to take migratory birds incidental to military readiness activities, subject to certain limitations.

Migratory birds are defined in legislation as species that in the course of their annual migration traverse certain parts of the United States, Canada, Mexico, Russia, or Japan. The Migratory Bird Treaty Act protects many common bird species, and numerous protected species are present within the Proposed Action area.

3.7 Cultural Resources

3.7.1 Cultural History

Prehistoric Period

The NHPA Section 106 area of potential effect (APE) for the Proposed Action relates, at its broadest extent, to Navajo and Apache Counties in Arizona; Yoakum, Terry, Lynn, Gaines, Dawson, Andrews, Martin, Loving, Winkler, and Ector Counties in Texas; and Union, McKinley, Santa Fe, San Miguel, Cibola, Bernalillo, Valencia, Torrance, Guadalupe, DeBaca, Curry, Catron, Socorro, Lincoln, Chaves, Sierra, Otero, Eddy, Lea, and Doña Ana Counties in New Mexico. The Proposed Action area is situated within the Southwest region of the United States, and the prehistory of the overall area can be generally divided into three major periods: the Paleoindian, the Archaic, and the Pueblo or Ancestral Pueblo. Archaeological sites from all of these general periods are observed within the Southwest. The Paleoindian Period began approximately 12,000 years ago and lasted until approximately 7,500 years ago. The term "Paleoindian" refers to the seemingly contemporaneous occupation of the North American continent by big game hunters. Paleoindian sites are almost exclusively identified by large, lanceolate projectile points such as Clovis or Folsom points, followed by the stemmed points of the Western Stemmed Tradition. This period is represented by a general hunter and gatherer strategy employed by small, highly mobile groups. Traditionally, researchers proposed that these groups exploited large grazing animals, such as mammoth, horse, camel, and buffalo that resided in the local area, in a much wetter and lush environment than at present. More recently, other researchers propose that these small groups hunted much smaller game, and gathered and scavenged foods comprised a significant portion of their diet (Cordell and Gumerman, 2006). These points were fluted and mounted on the ends of spears for hunting megafauna.

"Archaic" is used through much of the western United States to describe the time period when the adaptive strategies switched from a focus on megafauna to a more diversified strategy and a greater investment in seed and plant processing. The Archaic Period lasted from approximately 7,500 years ago to 1,500 years ago. Populations continued to remain small and mobile, adapting to changing climatic conditions. Ground stone tools became

widespread during this period, perhaps indicating a higher reliance on gathered resources (Irwin-Williams, 1973). The toolkit became less specialized and more varied, and, generally, the projectile points became smaller. Ground stone became much more common, as did other stone tools for a greater number of tasks. Hunting continued, but the focus was on smaller game, the same types of game available today. Cultigens were introduced to the late archaic peoples, and were used to some extent. The primary difference between the late archaic people and later agricultural people was the degree of reliance on cultivated crops, and by association, the degree of sedentism.

The Agricultural Period in the Southwest dates from A.D. 200 to A.D. 1500. The large-scale adoption of, and reliance on, domesticated crops from Mexico around 200 A.D. provides one of the greatest catalysts for cultural change in prehistory. This period is marked by a greater sedentism, drastic changes in technology, including pottery and the bow and arrow, and an increased focus on agriculture (Cordell and Gumerman, 2006). Pottery increasingly becomes more important and elaborate, and the architectural styles evolve from simple one-room structures to large, multiroom complexes with public or common spaces and platform mounds. The end of the Prehistoric Period is marked by the entry of the first Europeans into the Southwest.

Historic Period

The Historic Period begins in the area with the arrival of European explorers. Generally, the Historic Period in New Mexico can be divided into the following: Spanish Exploration (AD 1540–1598), Spanish Colonization-Pueblo Revolt (1598–1692), Spanish Colonial (1692–1821), Mexican (1821–1846), U.S. Territorial (1846–1912), and Statehood (1912–present). Santa Fe was settled as the capital of New Mexico in 1610, and was connected to Mexico City by the Camino Real. Several early Spanish expeditions passed through the region, and early land grants enticed Spanish ranchers to move into the region during this time. By AD 1600, colonists had begun to arrive from Mexico and Spain (Bancroft, 1889). Colonial policies led to rebellion by the Pueblo peoples, and for the 12 years between 1680 and 1692, the Spanish were pushed out of New Mexico (Sando, 1979). This revolt led into the Spanish Colonial Period, which saw more extensive European settlements, the introduction of a land grant system, the introduction of the presidios, and an increase in the number of colonists (Simmons, 1979). Mexican independence from Spain marked the start of the Mexican Period. This period marked the beginning of strong ties between the United States and New Mexico as trade increased along the Santa Fe Trail. The United States acquired New Mexico from Mexico as a result of the Mexican American War. Trade networks increased with the eastern United States, and a substantial increase in homesteading occurred. In 1880, the first rail line reached into New Mexico at Albuquerque; the completion of the Atchison, Topeka, and Santa Fe Railroad led to an increase in mining activities in the New Mexico Territory and a radical shift in the population. Five years after completion of the rail line, Albuquerque became predominately Anglo-Protestant. The early years of the 1900s brought statehood and Route 66 to New Mexico; mining and ranching continued to be important industries for the state (Roberts and Roberts, 2004).

Generally, the Historic Period in Arizona can be divided into the following: Spanish Period (AD 1520–1821), Mexican Period (1821-1853), U.S. Territorial (1853–1912), and Statehood (1912–present). The northern portions of Arizona were largely ignored by the Spanish. Father Eusebio Francisco Kino explored the Santa Cruz Valley from 1691 to 1711, and

founded a series of Jesuit missions, the most famous being San Xavier del Bac, south of Tucson. The Spanish influence became permanent with the construction of a presidio in Tucson in 1776. In 1821, southern Arizona fell under the new Republic of Mexico after winning independence from Spain in a war begun in 1810 (Bancroft, 1889). Later, the Treaty of Guadalupe Hidalgo assured that present-day Tucson would remain a part of Mexico. In 1854, Mexico sold nearly 7.7 million hectacres of what is now southern Arizona and New Mexico to the United States for $10 million in the Gadsden Purchase. Arizona, originally a part of the New Mexico Territory, became a United States territory in 1863 (Hinton, 1878). The railroad came to southern Arizona in 1880. Several decades later, in 1912, Arizona became the forty-eighth state in the Union. Ranching and agriculture have been and remain important to the local economy.

Texas history is represented largely by the countries that occupied the land: Spain, France, Mexico, the Republic of Texas, the Confederate States of America, and the United States. The first European known to explore and map Texas was Alonso Alvarez de Pineda, a Spanish explorer. Coronado entered Texas in 1540, for his search of the Seven Cities of Cibola. The Spanish established a number of Catholic missions throughout Texas during the late 1700s. The Constitution of 1824 gave rule of Texas to Mexico. The government was meant to have been a republic, but rights were not clearly defined, and in 1835, Texas declared itself free of Mexican rule. The Texas Declaration of Independence was signed the following year, the same year the 2-week siege at the Alamo occurred. Texas was annexed into the United States in 1845. The Mexican-American War broke out the following year. Texas seceded from the United States in 1861, and joined the Confederate States of America. The United States re-admitted Texas into the Union in 1870. The years after the Civil War were predominately colored by Reconstruction, an influx of settlers seeking cheap land, and the Plains Indians trying to keep their lands free of settlers. By the late 1800s, however, the Plains Indians in Texas faced not only the U.S. Cavalry, but also the extinction of the bison herds in Texas. Bounties on hides resulted in a decrease from an estimated 100 million bison to less than 1,100 animals in 1887 (McComb, 1989). In 1901, oil was discovered at the Spindletop oil field near Beaumont, which moved Texas into the modern centuries as an oil power.

3.7.2 Cultural Resource Investigations and Resources

Archaeological sites have been located and recorded throughout New Mexico, Arizona, and Texas, providing insight into the chronology and culture of the greater Southwest, dating back into the Paleoindian Period 12,000 years ago. Historical resources include Native American villages, Native American and European trade routes, stage lines, cattle and sheep ranching, mining operations, and railways. The nature of the proposed undertaking was such that inventory consisted only of checking existing records and contacting State Historical Preservation Officers (SHPO) and tribes. The SOP (see Appendix B) requires that balloon events have specific, focused inventory efforts at "sub-APEs."

New Mexico

The New Mexico Historic Preservation Division (HPD) maintains a catalogue of archaeological sites, historic properties, and historic districts listed on the New Mexico State Register of Cultural Properties and the National Register of Historic Places (NRHP). Also included are National Historic Landmarks. According to the New Mexico HPD, in the

21 counties involved in the Proposed Action, there are almost 1,300 cultural resources listed on the state and national registers (New Mexico SHPO 2011).

Arizona

The Arizona State Historic Preservation Office maintains the AZSITE Database, which contains records of historically significant archaeological sites, historic properties, and historic districts throughout the state. The database represents records from the Arizona State Museum, the Archaeological Research Institute at Arizona State University, the State Historic Preservation Office, the Museum of Northern Arizona, and the National Forests. According to the AZSITE Database, the two Arizona counties involved in the Proposed Action contain roughly 154 state and NRHP registered cultural resources (Arizona SHPO, 2011).

Texas

The Texas Historical Commission, the state agency dedicated to historic preservation, maintains the Texas Historic Sites Atlas. The Atlas includes cultural resources listed on the NRHP, Recorded Texas Historic Landmarks, State Archeological Landmarks, and historic cemeteries. According to the Texas Historic Sites Atlas, the 10 counties involved in the Proposed Action contain 47 significant cultural resources.

3.8 Water Resources

Water resources include surface water, floodplain, groundwater and wetland resources (see Figure 3-2). Water quality is regulated according to the following federal standards:

- **Clean Water Act of 1977:** the primary federal law governing surface water protection. Its goal is to protect the chemical, physical, and biological integrity of the nation's waters.
- **EO 11988, Floodplain Management:** requires federal agencies to reduce the risk of flood loss; minimize the impact of floods on human safety, health, and welfare; and restore and preserve the natural and beneficial values served by floodplains.
- **EO 11990, Protection of Wetlands:** requires federal agencies to minimize the destruction, loss, or degradation of wetlands.
- **Safe Drinking Water Act:** the main federal law ensuring the quality of Americans' drinking water. Under the Safe Drinking Water Act, EPA sets standards for drinking water quality.

3.8.1 Surface Water, Floodplains, and Groundwater

The following describes the major water resources found within the affected counties. Floodplains have been identified in most counties, cities, and towns within the Proposed Action area.

New Mexico

The largest watershed within the New Mexico Proposed Action area is the Rio Grande Basin. The Texas-Gulf Basin is present in the southeast counties, and the Lower Colorado (Texas) Basin is present in the east. Union County, which is in the far northeast corner of the state, is in the Arkansas-White-Red Basin (National Atlas of the United States, 2010). The Continental Divide occurs on the western portion of the New Mexico Proposed Action area,

which is the natural boundary line separating waters that flow into the Atlantic Ocean from those that flow into the Pacific Ocean.

The major water bodies in the New Mexico Proposed Action area include the Puerco River in the west, the Rio Grande in the center, and the Pecos River in the east. Elephant Butte Reservoir, Cabello Reservoir, and Big Salt Lake are in Sierra County; and Conchas Lake is in San Miguel County. Numerous streams, tributaries, dry lakebeds, and arroyos occur throughout the Proposed Action area (National Atlas of the United States, 2010).

The majority of aquifers in the affected New Mexico counties are composed of sandstone, limestone, and shale, and occur in the central portion of the state (Natural Resource Conservation Service, 2002). The depth to groundwater is relatively shallow (less than 200 feet) in much of the New Mexico Proposed Action area (Natural Resource Conservation Service, 1992).

Arizona

The affected counties of Arizona are located in the Upper Colorado Basin in the north and the Lower Colorado Basin in the south. The major water bodies in the two counties are the Little Colorado and Pecos Rivers in the south. Lakes and reservoirs include the Many Farms Lake in the north and the White Mountain, Sunrise, and Crescent Lakes in the south. Also, a number of arroyos and dry lakebeds are in the affected counties. A large sandstone aquifer occupies most of the northern portions of the affected counties in Arizona (National Atlas of the United States, 2010).

Texas

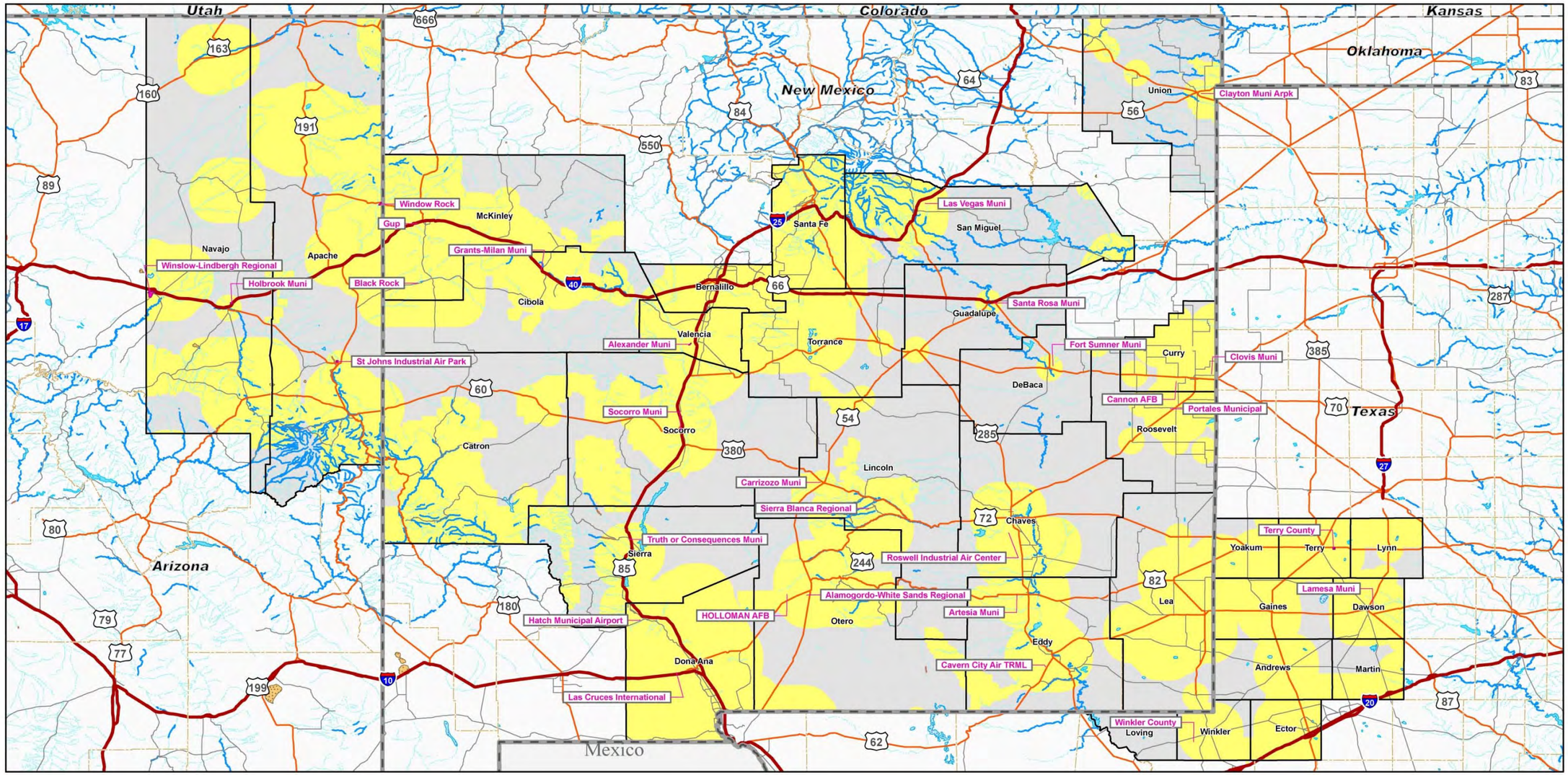
The largest watershed of the affected Texas counties is the Texas-Gulf Basin to the north. The Rio Grande Basin occurs in Loving, Winkler, and parts of Ector and Andrews Counties. No major bodies of water are within the affected Texas counties; however, there are numerous arroyos, small lakes, and dry lakebeds. Gravel, sand, carbonate rock, and sandstone aquifers occupy most of the affected counties in Texas (National Atlas of the United States, 2010).

3.8.2 Wetland Resources

Wetlands are generally defined as lands where saturation with water is the dominant factor, determining the nature of soil development and the types of plant and animal communities living in the soil and on its surface (EPA, 2009c).

New Mexico

New Mexico wetlands are important biological and economic resources because of the unique environments they provide along the state's springs, marshes, lakes, streams, and rivers. Currently, the integrity of these areas is threatened by the increased pressure from urbanization, agriculture, dams, water diversions, and over-utilization of forage (Muldavin et al, 2000). Wetlands cover approximately 482,000 acres in New Mexico, less than 1 percent of the state's total area (NMED, 2000b). These wetlands are categorized as follows: riverine, lacustrine, depressional, slope, mineral soil flats, and organic soil flats (NMED, 2006).



LEGEND

- POSSIBLE LAUNCH SITE
- EXCLUSION ZONE WITHIN AFFECTED COUNTIES
- COUNTY IN WHICH PROPOSED ACTION WOULD OCCUR
- STATE IN WHICH PROPOSED ACTION WOULD OCCUR
- STATE BOUNDARY
- COUNTY
- INTERSTATE
- HIGHWAY
- MAJOR ROAD
- LAKE
- LAKE INTERMITTENT
- LAKE DRY
- RESERVOIR
- RESERVOIR INTERMITTENT
- CANAL/DITCH
- AQUEDUCT
- STREAM/RIVER: INTERMITTENT
- STREAM/RIVER: PERENNIAL

VICINITY MAP

N

0 25 50
Miles

FIGURE 3-2
WATER BODIES IN OR NEAR AFFECTED COUNTIES
ENVIRONMENTAL ASSESSMENT,
BALLOON LAUNCH AND LANDING OPERATIONS,
AIR FORCE RESEARCH LABORATORY
KIRTLAND AIR FORCE BASE

CH2MHILL

\\BALDUR\PROJ\AFRL_396452\MAPFILES\EIS\FIG3-2_WATERBODIES.MXD TMCBROOM 2/17/2011 09:08:04

THIS PAGE INTENTIONALLY LEFT BLANK

Arizona

Less than 1 percent of the Arizona landscape has wetlands. Ephemeral and intermittent streams and discontinuous wetlands provide important functions to the unique ecoregions of the state (Environmental Law Institute, 2008). The most extensive wetlands are in riparian zones and include oxbow lakes, marshes, cienegas, and bosques. Extreme aridity and seasonally varying precipitation are the climatic characteristics that most significantly influence wetland formation and distribution. Wetlands throughout Arizona have been modified or drained, resulting in a loss of more than one-third of the state's original wetlands (U.S. Geological Survey [USGS], 1999).

Texas

Wetlands cover about 7.6 million acres, or 4.4 percent of Texas. The most extensive wetlands occur in the eastern part of the state and outside of the Proposed Action area. Wetlands in Texas provide flood attenuation, bank stabilization, water quality maintenance, and fish and wildlife habitat. Texas has lost about one-half its original wetlands through agricultural conversions, overgrazing, urbanization, channelization, and other causes (USGS, 1999).

3.9 Soils

Soils are an integrated expression of the underlying rock, climate, and environmental factors of a region, and are categorized into six classes (order, suborder, great group, subgroup, family, and series) (NRCS, 1999). Because of the large size of the Proposed Action area, the soils affected by the Proposed Action are described in terms of their order and suborder. The soils present in the affected counties of the Proposed Action represent 6 of the 12 orders of soil taxonomy. These soil orders are spread among New Mexico, Arizona, and Texas and are described below in the order of their predominance.

- **Aridisols** occur in the western United States, and for long periods they are too dry for broad-leafed plants to grow. The concept of Aridisols is based on the limited availability of soil moisture for sustained plant growth. Aridisols are divided into seven dominant suborders: Argids, Calcids, Cambids, Cryids, Durids, Gypsids, and Salids (NRCS, 1999).
- **Mollisols** occur throughout the Great Plains and western United States. Mollisols are used mainly as cropland. Generally, grains are grown in the drier regions, and corn and soybeans in the warmer, humid regions. Mollisols are divided into seven dominant suborders: Albolls, Aquolls, Cryolls, Rendolls, Udolls, Ustolls, and Xerolls (NRCS, 1999).
- **Entisols** occur throughout the United States. Some entisols have steep, actively eroding slopes, and others are on floodplains or glacial outwash plains that receive deposits of alluvium at frequent intervals. Entisols are divided into five dominant suborders: Aquents, Arents, Fluvents, Orthents, and Psamments (NRCS, 1999).
- **Alfisols** are extensive in the United States and make up about 14 percent of the surface area. Water is generally available to broad-leaf plants for more than half the year. Alfisols are divided into five dominant suborders: Aqualis, Cryalfs, Udalfs, Ustalfs, and Xeralfs (NRCS, 1999).
- **Inceptisols** are soils of cool to very warm, humid and subhumid regions. Inceptisols include a wide variety of soils; consequently, the definition is complicated. These soils

range from poorly drained to excessively drained. Inceptisols are divided into six dominant suborders: Anthrepts, Aquepts, Cryepts, Udepts, Usteps, and Xerepts (NRCS, 1999).

- **Vertisols** are relatively rare and are composed of clayey soils that have deep, wide cracks for some time during the year. They shrink as they dry and swell as they become moist. Vertisols are divided into six dominant suborders: Aquerts, Cryerts, Torrets, Uderts, Usterts, and Xerets (NRCS, 1999).

In addition to these soil types, much of the Proposed Action area contains areas of biological soil crusts. Biological soil crusts are highly specialized communities of bacteria, mosses, and lichens, which create a surface crust of soil particles bound together by organic materials. Biological soil crusts are found in arid and semi-arid environments where vegetation is naturally sparse and aid in regional soil stability and water infiltration (USGS, 2006).

3.9.1 New Mexico

All six of the above soil orders exist in the affected counties in New Mexico. Aridisols and Mollisols are the dominant soil types. Aridisols comprise most of the central and southern portion of the state and are divided mainly into the suborders Argids, or soils categorized by the accumulation of clay, and Calcids, or soils categorized by the accumulation of carbonates (NRCS, 1999). Mollisols are distributed fairly evenly throughout the state and are composed of the subgroup Ustolls, which are more or less free draining soils.

Entisols appear in the central portion of the Proposed Action area and are composed of the subgroups Orthents, which are common on recently eroded surfaces, and Psamments, which are sandy soils. Alfisols exist in the far eastern and western portions of the Proposed Action area and are composed of the suborder Ustalfs, which supports mainly grassland vegetation. A small area of Inceptisols and Vertisols is found in the western portion of the Proposed Action area. The Inceptisols are composed of the suborder Anthrepts, which are freely draining soils. The Vertisols are composed of the suborder Torrets, which are Vertisols in arid climates (NRCS, 1999).

3.9.2 Arizona

The affected counties in Arizona are composed of Entisols, Aridisols, and Alfisols. The dominant types are Entisols, which are composed of the subgroups Orthents and Psamments, and Aridisols, which are composed of the subgroups Argids and Calcides. The Alfisols are composed of the subgroup Ustalfs (NRCS, 1999).

3.9.3 Texas

The affected counties in Texas are composed of Aridisols and Mollisols. The dominant type is Aridisols, which are composed of the subgroups Argids and Calcides. The Mollisols are composed of the subgroup Ustolls (NRCS, 1999).

3.10 Socioeconomics

Socioeconomics include the population, income, employment, and housing conditions of a community or region.

3.10.1 New Mexico

The total population of the affected counties in New Mexico is approximately 1.5 million. Table 3-4 presents the populations for the affected New Mexico counties. The population size of the counties varies widely. The smallest county in the New Mexico Proposed Action area is De Baca County, with a population of 2,240. The largest county is Bernalillo, with a population of roughly 627,000. Bernalillo County contains the city of Albuquerque and is located near the center of the state (U.S. Census Bureau, 2007).

As of 2002, Kirtland AFB added approximately 23,500 jobs to the local economy of Bernalillo County, and with over 31,000 employees, Kirtland AFB is Albuquerque's largest employer. The AFB's overall impact on the county and surrounding area is estimated to be in excess of $4.6 billion (Kirtland AFB, 2002).

TABLE 3-4
Populations of Affected New Mexico Counties
Environmental Assessment, Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico

County	Population	County	Population	County	Population
McKinley	70,387	Otero	62,694	De Baca[a]	2,240
Cibola	27,164	Eddy	50,986	Curry	44,767
Valencia	70,917	Lea	57,980	Roosevelt[a]	18,018
Catron[a]	3,543	Chaves	62,339	San Miguel	28,657
Socorro[a]	18,078	Lincoln	20,766	Union[a]	4,174
Doña Ana	197,702	Torrance[a]	16,911	Santa Fe	142,318
Sierra[a]	13,270	Guadalupe[a]	4,680	Bernalillo	626,991

[a]2006–2008 data not available for this geography; data are from the 2000 Census.

Source: U.S. Census Bureau, 2007

3.10.2 Arizona

The total population of the affected Arizona counties is approximately 181,000. Navajo County's population is about 111,000 and is roughly one and a half times larger than Apache County's approximate population of 70,000 (U.S. Census Bureau, 2007).

The average annual household income of the two affected Arizona counties is $35,150. Navajo County's annual household income of $39,678 is slightly higher than Apache County's annual household income of $30,621. (U.S. Census Bureau, 2007)

3.10.3 Texas

The total population of the affected Texas counties is approximately 210,000. The smallest county in terms of population is Loving, with 67 people. The largest county is Ector, with 129,267 people. Table 3-5 presents the populations of the affected Texas counties.

TABLE 3-5
Populations of Affected Texas Counties
Environmental Assessment, Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico

County	Population	County	Population
Loving[a]	67	Gaines[a]	14,467
Winkler[a]	7,173	Dawson[a]	14,985
Ector	129,267	Yoakum[a]	7,322
Andrews[a]	13,004	Terry[a]	12,761
Martin[a]	4,746	Lynn[a]	6,550

[a]2006–2008 data not available for this geography; data are from the 2000 Census.
Source: U.S. Census Bureau, 2007

The average annual household income for the affected Texas counties is $32,944. The highest household income of $46,882 occurs in Ector County. The lowest household income is $26,694 and occurs in Lynn County. (U.S. Census Bureau, 2007)

3.11 Environmental Justice and Protection of Children

"Environmental justice" is defined as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, age, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies (EPA, 2009d). EO 12898, "Federal Actions to Address Environmental Justice in Minority and Low-Income Populations," requires federal agencies to consider potential effects of their actions on minority and low-income populations. EO 13045, "Protection of Children from Environmental Health Risks and Safety Risks," requires government agencies to address disproportionate risks to children that result from environmental health or safety risks.

3.11.1 Environmental Justice

Minority communities are defined as populations where the percentage of minorities significantly exceeds the national average. "Significantly exceeds" is interpreted here as exceeding the national average by 5 percent. Because the percentage of persons identified as minority under the U.S. Census Bureau guidelines is 25.7 percent, any community or county with a minority population of 30.7 percent or above is considered a minority community for purposes of this analysis. Table 3-6 lists the counties within the Proposed Action area that are considered minority communities. No minority communities are within the affected Texas counties.

TABLE 3-6
Minority Counties within the Proposed Action Area
Environmental Assessment, Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico

New Mexico	Arizona
McKinley	Apache
Cibola	Navajo
Valencia	
Socorro	
Doña Ana	
Guadalupe	
Curry	
San Miguel	
Bernalillo	

Source: U.S. Census Bureau, 2007

3.11.2 Protection of Children

Children, or individuals under the age of 18, make up approximately 24.5 percent of the American population (U.S. Census Bureau, 2007). The child population of the affected counties in New Mexico, Arizona, and Texas are generally higher than the national average.

New Mexico

The average child population in the affected New Mexico counties is 26.8 percent, slightly higher than the national average. Four counties significantly exceed the national average: McKinley, Lea, Torrance, and Curry. One county is significantly less than the national average, Sierra (U.S. Census Bureau, 2007).

Arizona

The child population in both Navajo (31.3 percent) and Apache (30.4 percent) counties in Arizona significantly exceed the national average (U.S. Census Bureau, 2007).

Texas

The average child population in the affected Texas counties is 29.7 percent, which is significantly higher than the national average. Only three of the Texas counties have a child population that is not significantly more than the national average. Dawson and Terry counties are similar to the national average, while Loving County with a total population of only 67 is significantly less than the national average (U.S. Census Bureau, 2007)

THIS PAGE INTENTIONALLY LEFT BLANK

.

SECTION 4

Environmental Consequences

This section provides the regulatory background, as applicable, for various environmental resource areas and evaluates potential impacts resulting from balloon operations. The potential impacts on the human and natural environments were evaluated by comparing the Proposed Action to the No Action Alternative. The subsection for each environmental resource or issue assesses the anticipated direct and indirect impacts, considering both short- and long-term project effects. As described in the following subsections, no significant adverse environmental impacts are anticipated as a result of implementing the Proposed Action.

4.1 Land Use

4.1.1 Proposed Action Alternative

The Proposed Action would not result in either temporary or permanent changes to land use designations. Launch operations would occur on existing airfields or paved areas, and AFRL/RV would coordinate with the appropriate owners (see Figure 2-1). Landing operations would be planned to occur near unpaved roads and away from wilderness, wilderness study areas, roadless, and other restricted areas (such as BLM oil and gas development and utility rights-of-way). An exclusion zone for landing operations has been designated within the Proposed Action area which avoids Wilderness Areas, Native American tribal land, surface water bodies, mountainous areas, national parks, and other cultural and natural resources to minimize environmental impacts, prevent damage to the balloon assembly, and facilitate recovery. AFRL/RV would contact land management agencies, tribal officials, and landowners for recovery operations, as described in Section 2.6. If an emergency landing within the exclusion zone should occur, AFRL/RV would offer appropriate compensation and work with the landowner or land manager to restore any damage. Existing or future land use categories would not change as a result of implementing the Proposed Action; therefore, no impact on land use would occur.

4.1.2 No Action Alternative

Under the No Action Alternative, AFRL/RV would not perform high-altitude R&D balloon operations and would not need to access areas off of Kirtland AFB. The No Action Alternative would result in no impacts on land use.

4.2 Airspace Management

4.2.1 Proposed Action Alternative

Under the Proposed Action, the following coordination and approvals would be required for compliance with applicable regulations:

- FAA coordination for airspace management, flight, and landing notifications
- Airport or airfield approval and coordination for launch operations

AFRL personnel would coordinate all balloon operations with the FAA, use the Notices to Airmen system to alert civilian and military aviators, and maintain communication with the FAA. Additionally, the balloon would be equipped with an FAA-approved transponder, and its location would be continually tracked using GPS. The GPS is accurate to approximately 30 feet of the balloon's position, updates the position of the balloon each second, and contains redundant systems in case of primary system failure. If a balloon trajectory should change unexpectedly, the FAA would be notified immediately. The balloon will also be equipped with reflective yarn that can be tracked with radar, if there ever was a complete GPS failure. Coordination with FAA, and airfields for approvals of launch operations, and continuous tracking of the balloon during flight would reduce the potential for adverse impact on air space to less than significant.

4.2.2 No Action Alternative

Selection of the No Action Alternative would result in no change to airspace because balloons would not be launched into airspace resources; therefore, no impact would occur.

4.3 Air Quality

4.3.1 Laws and Regulations

Federal

EPA adopted the CAA in 1970, and its amendments in 1977 and 1990. Under the authority of the CAA, EPA has established nationwide air quality standards to protect public health and welfare with an adequate margin of safety. These federal standards, known as the NAAQS, represent the maximum allowable atmospheric concentrations and were developed for the following seven "criteria" pollutants: O_3, NO_2, CO, PM_{10}, $PM_{2.5}$, SO_2, and lead.

The 1977 CAA required each state to develop and maintain a state implementation plan (SIP) for each criteria pollutant that violates the applicable NAAQS. The SIP serves as a tool to avoid and minimize emissions of pollutants that exceed ambient thresholds and to achieve compliance with the NAAQS. In 1990, the CAA was amended to strengthen regulations of both stationary and mobile emission sources for criteria pollutants.

Under the conformity provisions of the CAA Amendments of 1990, no federal agency can approve or undertake a federal action, or "project," unless the project has been demonstrated to conform to the applicable SIP. These conformity provisions were put in place to ensure that federal agencies would contribute to efforts to attain the NAAQS. EPA has issued two conformity guidelines: (1) transportation conformity rules that apply to transportation plans and (2) projects and general conformity rules that apply to all other federal actions. A conformity determination is only required for the alternative that is ultimately selected and approved. A conformity determination is a process that demonstrates how an action would conform to the applicable implementation plan. If the emissions cannot be reduced sufficiently, and if air dispersion modeling cannot demonstrate conformity, then either a plan for mitigating or a plan for offsetting the emissions would need to be pursued. The general conformity determination is submitted in the form of a written finding, issued after a minimum 30-day public comment period on the draft determination.

Applicable only in areas designated as nonattainment or maintenance for NAAQS, general conformity applicability analysis requires quantification of direct and indirect construction and operation emissions for the project, and comparison of these emission levels to baseline emission levels. If the differences in emissions (the net emissions associated with the project) exceed the general conformity de minimis thresholds for the peak year or any milestone year for attainment of the standards, additional general conformity determination is required.

An action is exempt from the conformity rule (i.e., the action is presumed to conform) if the total net project-related emissions (construction and operation) are less than the de minimis thresholds established in the conformity rule. An action that produces emissions that exceed conformity de minimis thresholds is required to demonstrate conformity with the SIP through mitigation or other accepted practices.

The CAA also requires preconstruction review of facilities and equipment that could potentially emit air contaminants. Permitting depends on the size of the emission source and its location in an attainment or nonattainment area.

State

New Mexico. The NMED manages air quality for the state of New Mexico outside of Bernalillo County and is responsible for monitoring and enforcing federal air quality standards and regulations. New Mexico has developed the state ambient air quality standards published in Chapter 2 of Title 20 of the New Mexico Administrative Code. These standards are generally more stringent than the NAAQS and limit additional pollutants including total suspended particulate and sulfur compounds.

The Albuquerque/Bernalillo County Air Quality Control Board (AQCB) is the federally delegated air quality authority for Albuquerque and Bernalillo County. The AQCB administers and enforces the CAA and the New Mexico Air Quality Control Act (State Act) in the Albuquerque/Bernalillo County area. The authority of the AQCB was established by New Mexico State Legislature in 1967, when the Legislature adopted the State Act authorizing the city of Albuquerque and Bernalillo County to adopt ordinances providing for the creation of the AQCB. The city and the county adopted parallel ordinances, creating the AQCB shortly after the State Act was adopted.

The primary function of the AQCB is to ensure that provisions of the United States CAA are implemented. According to the State Act, AQCB shall "adopt, promulgate, publish, amend and repeal regulations consistent with the [State Act] to attain and maintain national ambient air quality standards and prevent or abate air pollution, including regulations prescribing air standards, within the geographic area of the local board's jurisdiction or any part thereof."

The Albuquerque Environmental Health Department, Air Quality Division is the local agency that governs air quality issues on Kirtland AFB. The AQCB enforces Chapter 2 of Title 20 of the New Mexico Administrative Code.

Arizona. The potential launching and landing sites in Arizona would be located in Apache and Navajo Counties, which are under the jurisdiction of the Arizona Department of Environmental Quality (ADEQ). The ADEQ was established by the Arizona Environmental Quality Act in 1985, to support a wide range of environmental programs that protect the

quality of air, water, and land in Arizona. The ADEQ is also the local permitting authority for Apache and Navajo Counties.

Texas. The potential launching and landing sites in Texas are under the jurisdiction of the Texas Commission on Environmental Quality. The Texas Commission on Environmental Quality is previously the Texas Natural Resource Conservation Commission that was created in 1993, by consolidating the Texas Water Commission, Texas Air Control Board, and environmental programs from the Texas Department of Health. The Texas Commission on Environmental Quality is now the environmental agency for the state and is responsible for monitoring and enforcing federal air quality standards and regulations.

4.3.2 Regulation Background of Greenhouse Gases

Federal

Although climate change has been a concern since at least 1988, as evidenced by establishment of the United Nations and World Meteorological Organization's Intergovernmental Panel on Climate Change, the efforts devoted to GHG emissions reduction and climate change research and policy have increased dramatically in recent years. The following are brief summaries of EPA regulatory actions under the CAA and, in some cases, other statutory authorities to address issues related to climate change.

Proposed Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards. On 15 September 2009, EPA and the Department of Transportation's National Highway Traffic Safety Administration proposed a new national program that would reduce GHG emissions and improve fuel economy for all new cars and trucks sold in the United States. EPA proposed the first-ever GHG emissions standards under the CAA, and the Department of Transportation's National Highway Traffic Safety Administration proposed Corporate Average Fuel Economy standards under the Energy Policy and Conservation Act. This proposed national program would allow automobile manufacturers to build a single light-duty national fleet that satisfies all requirements under both federal programs and the standards of California and other states.

Final Mandatory GHG Inventory Rule. In response to the FY2008 Consolidated Appropriations Act (House of Representatives 2764; Public Law 110–161), EPA has issued the Final Mandatory Reporting of Greenhouse Gases Rule. Signed by the administrator on 22 September 2009, the rule requires, in general, that suppliers of fossil fuels and industrial GHGs, manufacturers of vehicles and engines outside of the light-duty sector, and facilities that emit 25,000 metric tons or more of GHGs per year to submit annual reports to EPA. The rule is intended to collect accurate and timely emissions data to guide future policy decisions on climate change.

Proposed Greenhouse Gas Permitting Requirements on Large Industrial Facilities. On 30 September 2009, EPA proposed new thresholds for GHGs that define when CAA permits under the New Source Review and Title V operating permits programs would be required. The proposed thresholds would tailor these permit programs to limit which facilities would be required to obtain permits and would cover nearly 70 percent of the nation's largest stationary-source GHG emitters—including power plants, refineries, and cement production facilities, while shielding small businesses and farms from permitting requirements.

Comment Requested on Greenhouse Gas Permitting Guidance under Reconsideration. On 30 September 2009, EPA released a request for public comment as the agency reconsiders the 18 December 2008 memorandum titled "EPA's Interpretation of Regulations that Determine Pollutants Covered by Federal Prevention of Significant Deterioration Permit Program." This interpretive memorandum, from then-EPA Administrator Stephen L. Johnson to the EPA Regional Administrators addressed when the Prevention of Significant Deterioration Program applies to CO_2, a chief GHG, and other GHGs.

Executive Order 13514. Signed on 05 October 2009, EO 13514, "Federal Leadership In Environmental, Energy, and Economic Performance," introduced new GHG emissions management requirements for the federal government. EO 13514 requires agencies to establish percentage reduction targets for agencywide GHG emissions in absolute terms by Fiscal Year 2020, relative to a Fiscal Year 2008 baseline. These targets are subject to review and approval by the Office of Management and Budget and CEQ.

EO 13514 requires agencies to develop an inventory of their absolute (total quantity of metric tons of carbon dioxide equivalent) GHG emissions for Fiscal Year 2010 by January 2011. Each year thereafter, agencies must submit an annual inventory for the preceding fiscal year to the CEQ and Office of Management and Budget.

Final Endangerment Finding. On 07 December 2009, Administrator Lisa Jackson signed a final action, under Section 202(a) of the CAA, finding that six key, well-mixed GHGs constitute a threat to public health and welfare, and that the combined emissions from motor vehicles cause and contribute to the climate change problem.

States

Regulatory activities in each of the three affected states are described below. Currently, no state or regional air quality agency has yet adopted a methodology or quantitative threshold that can be applied to evaluate the significance of an individual project's contribution to GHG emissions.

New Mexico. On 28 December 2006, New Mexico Governor Richardson signed EO 06-069, which committed the state to joining regionally and nationally with other states in assuming a leadership role in addressing the risks of climate change. The goal of this EO is to reduce New Mexico's GHG emissions to (1) 2000 levels by 2012, (2) 10 percent below 2000 levels by the year 2020, and (3) 70 percent below the 2000 levels by the year 2050.

Arizona. EO 2005-02 was signed on 02 February 2005, establishing the Arizona Climate Change Advisory Group.

The Arizona Climate Change Advisory Group's Climate Change Action Plan was accepted, and on 08 September 2006, EO 2006-13 was signed, which established a statewide goal to reduce Arizona's future GHG emissions to the 2000 emissions level by the year 2020, and to 50 percent below the 2000 level by 2040. The EO also created the Climate Change Executive Committee under the direction of the ADEQ to begin implementing Climate Change Action Plan recommendations.

Texas. Currently, Texas does not have a climate change action plan.

4.3.3 Proposed Action Alternative

Operation emissions would occur during preparation for the balloon launch and recovery of the balloon envelope, parachute, payload, and gondola after the landing.

Balloon launches would require the use of a number of vehicles, including a crane launch vehicle, helium trailers, and a launch-restraint vehicle. For the recovery of the balloon and the associated equipment, vehicles from Kirtland AFB would travel to the landing area and transport the equipment. Emissions are expected to occur as a result of engine exhaust from the vehicle trips. These emissions would primarily consist of CO, NO_x, PM_{10}, $PM_{2.5}$, SO_2, and volatile organic compounds (VOC).

Emissions were estimated for the onroad vehicles used for balloon launch and recovery. Vehicle emissions of CO, CO_2, NO_x, PM_{10}, SO_2, and VOC, and were estimated using emission factors from the Mobile6 air emissions modeling program. To be conservative, it was assumed that the service trucks/trailers used for the balloon launch and recovery are heavy-duty diesel trucks. $PM_{2.5}$ emissions were conservatively assumed to be the same as PM_{10}. Methane emission factors are not available in Mobile6 modeling. Because methane emissions from vehicle exhaust are typically less than 0.01 percent of CO_2, it is considered negligible in this analysis; thus, it is not included in the GHG emission calculations.

To estimate the annual emissions, it was assumed that the vehicles might need to travel up to 1,000 miles round trip from Kirtland AFB to the launching site for each operation. Recovery of the equipment might also need each of the recovery vehicles to travel 1,000 miles round trip. Annual emissions of the Proposed Action were estimated based on 30 launches per year starting in 2010.

Fugitive dust emissions from vehicle travel are expected to be minimal because the vehicles would travel on paved roads for the launches. The three vehicles used for recovery of the equipment after balloon landing would also use paved roads whenever possible to avoid fugitive dust emissions. Recovery vehicles would need to travel on unpaved roads for a relatively short distance related to the total trip. Due to the limited number of vehicles and the minimal miles traveled on unpaved roads, the fugitive dust emissions are not expected to be a significant amount, and are not discussed in detail in this analysis.

Table 4-1 shows the estimated operation emissions of the Proposed Action. Detailed calculations and assumptions used in the emission analysis, and Mobile6 model outputs are provided in Appendices C1 and C2, respectively.

TABLE 4-1
Estimated Proposed Action Operation Emissions
Environmental Assessment, Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico

Activity	VOC (ton/year)	CO (ton[s]/year)	NO_x (ton[s]/year)	SO_x (ton/year)	PM_{10} (ton/year)	$PM_{2.5}$ (ton/year)	CO_2 (tons/year)
Trucks	0.19	0.85	1.7	0.007	0.064	0.064	375.1
Pickups and Commute Vehicles	0.2	4.1	0.28	0.002	0.009	0.009	125.56
Total	**0.39**	**5.0**	**2.0**	**0.009**	**0.07**	**0.07**	**500.65**

Note:
SO_x = sulfur oxide

General Conformity

The CAA established a number of programs and permitting processes designed to protect and improve air quality. Section 176(c) of the CAA Amendments of 1990, 42 USC Section 7506(c), established a conformity requirement for federal agencies, which has been implemented by 40 CFR 93, Subpart B. A general conformity applicability analysis is provided in Appendix D and summarized below.

The potential launch and landing sites would be located in 33 counties across three states. Bernalillo County in New Mexico is in maintenance for CO and is currently under an LMP. Anthony in Doña Ana County, New Mexico, is in nonattainment for PM_{10}. All other areas are in attainment/unclassified for NAAQS of the criteria pollutants. As a result, CO and PM_{10} emissions are subject to general conformity requirements.

In accordance with the air conformity requirements of 40 CFR 51.853 and 93.153(b)(1), the de minimis threshold for a CO maintenance area is 100 tons/year per federal action. The de minimis threshold for a PM_{10} nonattainment area is 100 tons/year. Table 4-2 shows the comparison of the annual emission increases associated with the Proposed Action and the de minimis thresholds. Both CO and PM_{10} emissions during the operation of the Proposed Action are below the de minimis thresholds.

On the basis of the conformity applicability criteria, the Proposed Action conforms to the most recent EPA-approved SIP; therefore, the project is exempt from the CAA conformity requirements and does not require a detailed conformity demonstration.

TABLE 4-2
Proposed Action General Conformity Applicability
Environmental Assessment, Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico

	Annual Emissions (ton(s)/year)	
Activity	**CO**	**PM_{10}**
Operation (2010 and beyond)	5.0	0.07
De Minimis Threshold	**100**	**100**

Greenhouse Gas Impacts

Comparisons of the GHG emissions from the Proposed Action with the GHG emission inventories of the three states of New Mexico, Arizona, and Texas are presented in Table 4-3. Although the 30 launches in each year are likely to occur in different states, the comparisons were based on the assumption that the annual GHG emissions might occur entirely within one state for a conservative analysis. As shown in Table 4-3, GHGs associated with the Proposed Action operation are minimal compared to the emission inventory of each state. Therefore, the Proposed Action GHG emissions are not expected to affect the implementation of each state's GHG emission reduction target.

TABLE 4-3
Greenhouse Gas Emissions
Environmental Assessment, Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico

	Project Emissions	New Mexico Inventory	Arizona Inventory	Texas Inventory
Metric Tons	454	62 million	92.3 million	652 million
Percent to inventory		<0.01%	<0.01%	<0.01%

Source: EPA, 2009b

Note:

State inventory is for the year 2000 for New Mexico and Arizona, and 1990 for Texas.

4.3.4 No Action Alternative

Under the No Action Alternative, balloon launching and landing would not occur, and air pollutant emissions associated with the Proposed Action operation would not be generated. No changes in air quality impacts are expected from implementation of the No Action Alternative.

4.4 Safety and Occupational Health

4.4.1 Proposed Action Alternative

The Proposed Action would include AFRL/RV personnel and R&D personnel operating vehicles and equipment to perform launch, flight, landing, and recovery operations. AFRL has established test and safety plans to define proper procedures and comply with Air Force, Occupational Safety and Health Administration, and FAA requirements. In AFRL/RV procedures, safety always takes precedence over R&D. Prior to launch, all balloon equipment would be inspected and tested to search for and correct defects or potential hazards.

Individuals operating the launch and recovery vehicles would be properly trained on their respective vehicles and follow standard safety protocols while in the field. All vehicles would have necessary safety equipment including, but not limited to, seatbelts, a first-aid kit, spare tire, and jack. Personnel operating government vehicles would comply with federal, state, local, and commander-directed speed limits, and would decrease speeds when conditions warrant. Regional weather conditions would be monitored and operations would be scheduled to avoid inclement weather conditions, reducing the likelihood of personnel encountering flash flood conditions while in the field.

All vehicles used for recovery operations are equipped with fire extinguishers and shovels and have standard exhaust systems. Vehicles are shut off when crews arrive on the site for recovery. Vehicles remain on roads at all times, with the possible exception of the final distance to reach the payload (typically a few yards). Small explosive actuator and cutter devices (for example, S-68 2-grain squibs) are self contained and pose no fire hazard.

To avoid potential airspace hazards, all balloon operations would be coordinated with the FAA. Each balloon would be fitted with an approved transponder and two strobe lights to warn nearby aircraft of the balloon's presence. Additionally, local Air Force personnel

would be notified of the balloon's flight path. Should the balloon fail for any reason (for example, not maintain inflation), the balloon would be separated from the payload and parachute, and the in-line recovery parachute would spontaneously deploy. Impacts related to airspace management are discussed in Section 4.2.

Landing and recovery sites would be planned to avoid populated areas and hazardous terrain such as mountains and surface water. AFRL/RV would make the final flight termination and payload release decisions on the basis of public safety and mission requirements. The impacts on safety and occupational health resulting from the Proposed Action are expected to be short term and minor, and, therefore, less than significant.

4.4.2 No Action Alternative

Launch, flight, or recovery operations would not occur under the No Action Alternative; therefore, no changes or impacts on safety or occupational health practices would occur.

4.5 Hazardous Materials and Hazardous Wastes

4.5.1 Proposed Action Alternative

Impacts related to hazardous materials and hazardous wastes can occur by project-related use, generation, or by the project affecting existing hazardous materials, waste, or contamination sites. AFRL flight safety review boards meet prior to every flight to identify and discuss all risks associated with operations, the appropriate management practices and standard operating procedures, and mitigation specific to each flight. Balloon operations would require the use of lithium ion and silver-zinc batteries, small explosive actuator and cutter devices (for example, S-68 2-grain squibs), and vehicle fuel.

All batteries would be recovered and reused for follow-on flights. Batteries would be protected during balloon operations; however, if a battery were punctured, it would be handled in accordance with the Kirtland AFB hazardous material handling procedures (Kirtland AFB, 2004) and the AFRL Battery Spill Cleanup Procedures (AFRL, undated)

Activated, spent squibs would be recovered and disposed of in accordance with approved hazardous material handling procedures at Kirtland AFB (Kirtland AFB, 2004). No hazardous wastes would be generated during the balloon operations. Helium is an inert gas used to fill the balloon and does not fall under the RCRA definition of a hazardous material.

Maintenance and fueling of vehicles would occur at an offsite location. Fuel or other automotive fluids would be used and handled according to the Kirtland AFB hazardous material handling procedures (Kirtland AFB, 2004).

All balloon assets would be recovered from the field, the platform would be reused in future flights, and expended balloons (made of polyethylene plastic) would be disposed of in the solid waste receptacles on Kirtland AFB. Balloons cannot be reused because of damage and contamination from dirt and debris during the landings.

Large, open, unpopulated areas are targeted for landings and, therefore, are not likely to contain hazardous materials or hazardous wastes sites. Furthermore, all EPA-recognized NPL sites are located within the landing exclusion zones and away from potential launch

sites. Therefore, balloon operations would result in less than significant impacts related to hazardous materials or wastes.

4.5.2 No Action Alternative

Launch, flight, or recovery operations would not occur under the No Action Alternative; therefore, no changes or impacts on hazardous material and waste practices would occur.

4.6 Biological Resources

4.6.1 Proposed Action Alternative

The Proposed Action sites across New Mexico, Arizona, and Texas contain a wide array of ecoregions. These ecoregions contain a large variety of plant and animal communities, including threatened and endangered species and migratory birds. Resource agencies (including, but not limited to U.S. Fish and Wildlife Service and Bureau of Land Management) were contacted in December 2009 and January 2010 (Appendix B, Table B-1). Responses and species lists provided are included in Appendix B5. Launches would only occur on previously disturbed areas, and personnel would use established routes of travel to enter the launch site. Launches would cause minimal, if any, adverse impacts on biological resources.

There is a minor potential hazard to organisms during the flight and landing of the balloons. A majority of each flight would occur at altitudes that do not support life; however, avian species as well as bats and insects could be encountered when the balloon is gaining or decreasing altitude during launch and landing. Additionally, terrestrial plants and animals or protected habitat could be encountered during the landing. The descent and landing site would be controlled to the maximum extent possible, and every effort would be made to avoid landing in a protected habitat. As discussed in Section 2.6, AFRL/RV would notify and coordinate with the appropriate land management agency prior to recovery operations to identify and avoid sensitive resources. The probability of affecting threatened or endangered species, migratory birds, or their habitat is remote, given (1) that populations of threatened or endangered populations are by definition sparse, (2) the infrequency of balloon operations (approximately 30 per year), and (3) the slower speed of ascent and decent compared to most aircraft. Furthermore, all USFWS-recognized critical threatened and endangered species habitat is located within the exclusion zone and away from launch sites. For this reason, a biological assessment was not performed.

Three vehicles would dispatch from Kirtland AFB to recover the balloon envelope, parachute, payload, and gondola. Recovery would occur shortly after impact, and the vehicles would remain on existing roadways to the greatest extent possible. Everything related to the balloon operation would be removed from the recovery site, and the site would be returned to its original condition through best management practices such as raking, reseeding, and replanting, as applicable. As discussed in Section 2.2.3, AFRL/RV would work with property owners, land managers, tribes, and agencies to coordinate restoration efforts and determine the best methods for returning the sites to its original condition.

Because of the actions described above, balloon launch, landing, and recovery operations would have only negligible short-term and, therefore, less than significant impacts on biological resources.

4.6.2 No Action Alternative

The No Action Alternative would not result in launch, flight, or recovery operations; and, therefore, no changes to the physical environment would occur that could affect biological resources.

4.7 Cultural Resources

Adverse effects on cultural resources can include physically altering, damaging, or destroying all or part of a resource; altering characteristics of the surrounding environment that contribute to the resource's significance; introducing visual or audible elements that are out of character with the property or that alter its setting; neglecting the resource to the extent that it deteriorates or is destroyed; or the sale, transfer, or lease of the property out of federal agency ownership (or control) without adequate legally enforceable restrictions or conditions to ensure preservation of the property's historic significance.

4.7.1 Laws and Regulations

The protection of cultural resources is governed by several federal laws and regulations, including the following:

- National Historic Preservation Act (1966)
- Archaeological and Historic Preservation Act (1974)
- American Indian Religious Freedom Act (1978)
- Archaeological Resources Protection Act (1979)
- Native American Graves Protection and Repatriation Act (1990)

This project is a federal undertaking that requires compliance with Section 106 of NHPA, which requires that federal agencies take into account the effect of their actions on properties that may be eligible for or listed in the National Register of Historic Places and afford the applicable SHPOs and Tribal Historic Preservation Officers (THPO) a reasonable opportunity to comment. If NRHP-eligible or listed historic properties are potentially impacted, the Advisory Council on Historic Preservation must be provided an opportunity to comment on the proposed undertaking prior to a final decision. Additionally, the Proposed Action could affect private, state, or local government lands, and compliance with all applicable state and local laws that pertain to the protection of cultural resources should be followed, as well as the applicable federal laws. See the Advisory Council on Historic Preservation's website (http://achp.gov/) for a complete discussion of Section 106 requirements.

4.7.2 Proposed Action Alternative

The Proposed Action, which does not involve ground disturbance from construction or similar activities (minor ground disturbance could potentially occur during landing or recovery), is anticipated to have minimal impacts on cultural resources. Within the complete extent of the APE that includes 33 counties in 3 states, a total of 30 balloon launches and descents are proposed per year. Balloon launches would occur from previously disturbed

areas with no historic properties, such as airfield runways. Thus balloon launches would have no effect on historic properties, in accordance with 36 CFR 800.4(d)(1). Impacts to cultural resources would not occur during balloon flight either. There is however potential for adverse affects on historic properties in balloon landing areas or during balloon recovery. The Kirtland AFB Cultural Resources Manager developed the SOP to specify procedures for avoidance of historic properties [36 CFR 800.5(b)] and mitigation [36 CFR 800.6(a)] in case of inadvertent damage to historic properties landing and recovery activities. While the SOP is not itself a legally binding document, it outlines the necessary procedures for AFRL to follow in order to address protection of historic properties as demanded by Section 106 of the NHPA, as amended. The SOP stipulates the identification of sub-APEs by county for each specific landing/recovery event. The Kirtland AFB Cultural Resources Manager will assist with NHPA Section 106 compliance, including location of historic properties in the APE, presence or absence of historic properties in the sub-APE, assessment of potential effects, and resolution of potential adverse effects for each specific landing/recovery. It also provides the necessary procedures to follow under the NHPA in the event that a historic property is adversely affected. The measures outlined in the SOP would reduce the potential impact on cultural resources to less than significant levels.

The SOP and accompanying letters requesting concurrence were sent to all applicable SHPOs and THPOs in January of 2011 (see Appendix B). Concurrence was received from the Arizona SHPO, the Hopi Tribe, Isleta Pueblo, the Pueblo of Santa Ana, and Laguna Pueblo. No other responses were received. Because the comment period of 30 days expired February 20, 2011, Section 106 compliance is considered complete for purposes of this EA/FONSI. In the event of an inadvertent adverse effect to a historic property, the SOP outlines the procedures AFRL must follow in order to ensure continued compliance under NHPA for the 20-year life of the Proposed Action. The SOP requires contact and coordination with SHPOs, tribes, and others for development of memorandums of agreement for damage that occurs to historic properties.

4.7.3 No Action Alternative

Launch, flight, or recovery operations would not occur under the No Action Alternative; therefore, no changes or impacts on cultural resources would occur.

4.8 Water Resources

4.8.1 Proposed Action Alternative

The Proposed Action is not anticipated to result in impacts on water resources. No construction or ground-disturbing activities would occur upon implementation of the Proposed Action. Consequently, there is little chance of affecting groundwater or changing floodplain and stormwater dynamics. Launches would occur on established airfields and paved areas, away from surface water; and landing and recovery sites would avoid surface water bodies and wetlands. The likelihood of an accidental water or wetland landing is extremely low because of the arid environment of the Proposed Action area. Therefore, there should be no impacts on water resources resulting from the Proposed Action.

4.8.2 No Action Alternative

Launch, flight, or recovery operations would not occur under the No Action Alternative; therefore, no changes or impacts on water resources would occur.

4.9 Soils

4.9.1 Proposed Action Alternative

Balloon launch, landing, and recovery operations are not expected to have a significant impact on soil resources. Launches would occur on designated airfields or airports, and personnel would use established routes for vehicle travel. Soils could be disturbed by the impact of the gondola and payload during landing; however, the descent would be controlled to the maximum extent possible, and every effort would be made to avoid sensitive soil areas identified by the land management agencies during initial consultation. When biological soil crusts are not present, the site would be returned to original condition by raking and revegetating, thus reducing any impacts on soils.

Biological soil crusts may be disturbed during balloon landing and recovery in arid and semi-arid areas. Driving vehicles or walking on biological soil crusts compress the soil and cause breaks in the biological sheaths and filaments, which drastically reduces the ability of the soil organisms to function and stabilize soils. Full recovery of crust from disturbance is a slow process, generally taking 1 to 5 years for the visual appearance of a crust and centuries to recover the full crust thickness (USGS, 2006). Whenever possible AFRL personnel will use existing roadways to avoid impacts on biological soil crusts; however, when offroad travel is unavoidable, efforts would be taken to limit the size of the disturbed area. Nearby biological crust organisms should naturally inoculate the disturbed areas; by reducing the size of the disturbed area, the rate of repair would be increased.

Recovery of the balloon operation equipment would occur hours after impact, and vehicles would use existing roadways wherever possible. Because of the actions described above, the balloon launch, landing, and recovery operations would have only minor to moderate impacts on soil resources.

4.9.2 No Action Alternative

Launch, flight, or recovery operations would not occur under the No Action Alternative; therefore, no changes or impacts on soil resources would occur.

4.10 Socioeconomics

4.10.1 Proposed Action Alternative

The Proposed Action would have no appreciable effect on the socioeconomic conditions of the region. No new personnel would be hired as a result of the Proposed Action, and the project would have no effect on the regional economy, population, or demographics. Implementation of the Proposed Action would have a minor, short-term benefit on local economy in areas where launch and recovery operations would occur, because balloon operation personnel and customers would likely patronize local establishments, such as restaurants, gas stations, and convenience stores. The Proposed Action would not result in a significant or long-term change to socioeconomic conditions.

4.10.2 No Action Alternative

Launch, flight, or recovery operations would not occur under the No Action Alternative; therefore, no changes or impacts on socioeconomics would occur.

4.11 Environmental Justice and Protection of Children

4.11.1 Proposed Action Alternative

The Proposed Action is not expected to preferentially affect minority or low-income communities or children. Balloon launch and recovery sites would avoid populated areas. AFRL/RV would attempt to contact the landowner to invite them to inspect the landing/recovery location. If the landowner cannot be located or the landing occurs at night, the local sheriff's department would be contacted to escort balloon retrieval personnel onto the private property. By avoiding populated areas, the balloon operations would also avoid areas where children are generally present. Additionally, balloon recovery would occur within hours of the landing, preventing the likelihood of children inadvertently finding the balloon and payload.

AFRL has notified the Native American tribes located within the Proposed Action area of the Proposed Action and would coordinate balloon recovery operations with local tribal officials, as outlined in Section 2.6. The Proposed Action would not result in significant impacts on environmental justice.

4.11.2 No Action Alternative

Launch, flight, or recovery operations would not occur under the No Action Alternative; therefore, no changes or impacts on environmental justice would occur.

4.12 Indirect and Cumulative Impacts

Indirect impacts are defined by the CEQ in 40 CFR 1508.8 as those "which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect impacts may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects to air, water, and other natural systems, including ecosystems."

Indirect impacts of the Proposed Action have been addressed in the preceding resource-specific analyses. Implementing the Proposed Action is not expected to result in significant indirect impacts on environmental or socioeconomic resources. Because the Proposed Action does not involve relocation of personnel or require large, long-term construction that would attract workers to the area, it would not result in growth-inducing effects, induced changes in population, or related effects.

Cumulative impacts are defined by the CEQ in 40 CFR 1508.7 as "impacts on the environment which result from the incremental impact of the action when added to other past, present, and reasonable foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions." Cumulative impacts must occur to the same resources, in the same geographic area, and within the same period for the Proposed Action and other projects.

The Proposed Action areas occur on lands managed by numerous federal, state, and private entities. These public agencies and private landowners may have projects planned with potential environmental impacts. The environmental and socioeconomic impacts associated with the Proposed Action are all short term and negligible to minor; thus, the potential for the Proposed Action to result in collectively significant cumulative environmental impacts is very low.

4.13 Relationship between Short-term Uses and Enhancement of Long-term Productivity

Implementation of the Proposed Action would involve the use of environmental resources to reach the long-term gains associated with the balloon operations and related R&D opportunities. The Proposed Action would use minimal environmental resources, and where possible, these uses would be mitigated. Short-term uses of environmental resources include the following.

- Commitment of labor and resources during balloon operations including the consumption of fossil fuels and helium
- Use of public airspace during launch and landing operations
- Potential impacts on biological soil crusts during landings

The commitment of these resources is based on the thought that the military readiness of the United States would benefit from the capabilities provided by the Proposed Action. The benefits include the enhancement of the technologies used to characterize the stratospheric environment, development of over-the-horizon communication capabilities to meet federal government and DoD requirements, and improvement of technologies employed by the federal government for DoD-related stratospheric and space-based systems.

4.14 Irreversible and Irretrievable Commitment of Resources

Irreversible or irretrievable resource commitments are related to the use of nonrenewable resources and the effects that use of these resources would have on future generations.

Resources expected to be affected during the balloon launch and landing operations include operation and materials costs. In addition, energy (fuel) for the launch and landing vehicles would be consumed. Although the most of the operation materials, such as the gondola and R&D equipment would be re-used and recycled, some permanent loss of resources would be expected, and would be considered an irreversible effect. Lost resources include fuel, helium, and the balloon envelope. The minimum amount of helium and fuel necessary for operations would be used.

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 5

List of Preparers

Name	Education	Experience	Role
Karin Lilienbecker	B.S. Environmental Science M.S. Biology	17 years	Senior Review
Mark Bennett	Ph.D., Chemical Engineering; B.S.E., Bioengineering	18 years	Senior Review
Karen Jarocki, P.G.	B.S. Geology M.A. Geology	16 years	Project Manager
Lyna Black	B.S. Biology M.S. Geosciences	15 years	Task Manager/EA Document Manager
Julie Petersen	B.S. Biology	8 years	Environmental Scientist/Planner
Michelle Rau	BS Ecology, MBA	13 years	Environmental Planner
Hong Zhuang	M.S. Environmental Science and Engineering	13 years	Air Quality
Natalie Lawson, R.P.A.	B.S. Chemistry M.A. Anthropology	9 years	Cultural Resources
Celeste Brandt	B.A. English	11 years	Technical Editor

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 6

List of Agencies, Organizations, and Individuals Contacted

Please see Appendix A.

THIS PAGE INTENTIONALLY LEFT BLANK

SECTION 7

Works Cited

Arizona State Parks Board. 2009. Final Arizona State Historic Preservation Plan Update 2009.

AZSITE. Undated. AZSITE, Arizona's Cultural Resource Inventory. Available at: http://www.azsite.arizona.edu. Accessed 13 January 2010.

Bancroft, Hubert Howe. 1889. *A History of Arizona and New Mexico*. San Francisco, CA: The History Company.

Campbell, Neil. 1993. *Biology*. Third edition. Redwood City, California. Benjamin Cummings.

Chaplin, Steve et al. 2001. "NA0803" in *Terrestrial Ecoregions of North America: A Conservation Assessment*. Island Press. Available at: http://worldwildlife.org/wildworld/profiles/terrestrial_na.html.

Cook, T., et al. 2001. "NA0815" in *Terrestrial Ecoregions of North America: A Conservation Assessment*. Island Press. Available at: http://worldwildlife.org/wildworld/profiles/terrestrial_na.html.

Cordell, Linda S. and George J. Gumerman. 2006. *Dynamics of Southwest Prehistory*. Tuscaloosa, AL: University of Alabama Press.

DellaSalla, D. 2001. "NA0503" in *Terrestrial Ecoregions of North America: A Conservation Assessment*. Island Press. Available at: http://worldwildlife.org/wildworld/profiles/terrestrial_na.html.

Environmental Law Institute. 2008. State Wetland Protection, Status Trends and Model Approaches. March.

ESRI. 2009. Street Map.

ESRI. 2009. North American Dataset.

Hinton, Richard J. 1878. The Hand Held Book to Arizona: Its Resources, History, Towns, Mines, Ruins, and Scenery. San Francisco, CA: Payet, Upman, and Company.

Irwin-Williams, Cynthia. 1979. "Post-Pleistocene Archaeology, 7000-2000 B.C." in *Handbook of North American Indians: Volume 8, Southwest*. Ed. William C. Sturtevant. pp. 31-42.

Kirtland Air Force Base (Kirtland AFB). 2002. Comprehensive Plan, Kirtland Air Force Base, New Mexico, General Plan.

Kirtland Air Force Base (Kirtland AFB). 2004. *377th Air Base Wing Hazardous Waste Management Plan*. December.

Kirtland Air Force Base (Kirtland AFB). 2008. Integrated Cultural Resources Management Plan, Kirtland Air Force Base. February.

McComb, David G. 1989. *Texas, A Modern History*. Austin, TX: University of Texas Press.

Muldavin, Edward et al. 2000. *Handbook of Wetland Vegetation Communities of New Mexico, Volume I: Classification and Community Descriptions*. NM: University of New Mexico.

National Atlas of the United States. (2010). *Map Maker*. Available at: http://nationalatlas.gov. Accessed 12 January 2010.

National Geographic Society. 2001. *Terrestrial Ecoregions of the World*. Available at: http://www.nationalgeographic.com/wildworld/terrestrial.html.

Natural Resource Conservation Service. 1992. *Map Showing the General Depth to Ground Water in New Mexico*. Available at: http://www.nm.nrcs.usda.gov/technical/fotg/section-1/maps.html.

Natural Resource Conservation Service. 1999. Soil Taxonomy: A Basic System of Soil Classification for Making and Interpreting Soil Surveys. 2nd edition. U.S. Department of Agriculture.

Natural Resource Conservation Service. 2002. *New Mexico Water Resource Atlas 2002, Geology and Major Aquifers.* Available at: http://www.nm.nrcs.usda.gov/technical/fotg/section-1/maps.html. Accessed December 2009.

New Mexico Environment Department (NMED). 2009. New Mexico Recommended Area Designations for the 2008 Revised Ozone NAAQS.

New Mexico Environment Department (NMED). 2006. "New Mexico Wetlands Program: New Mexico Wetland Types." Available at: http://www.nmenv.state.nm.us/swqb/Wetlands/types/index.html.

New Mexico Environment Department (NMED). 2005. Doña Ana County, New Mexico Natural Events Action Plan Reevaluation 2005.

New Mexico Environment Department (NMED). 2000a. *Doña Ana County Natural Events Action Plan for High Wind Events*.

New Mexico Environment Department (NMED). 2000b. *New Mexico 2000 Wetlands Conservation Plan.* Available at: http://www.nmenv.state.nm.us/swqb/wetlandsplan-2000.html.

New Mexico Environment Department (NMED). 1991. New Mexico PM_{10} State Implementation Plan, November 1991.

New Mexico Environment Department (NMED), Air Quality Bureau. 2009. "Albuquerque-Bernalillo County Air Quality Control Board Notice of Hearing and Regular Meeting." New Mexico Register, Volume XVIII, Number 6, 30 March 2007. Available at: http://www.nmcpr.state.nm.us/nmregister/xviii/xviii06/AirQualnotice.pdf. Accessed December 2009.

New Mexico Floodplain Managers Association. 2004. *Floodplain Management in New Mexico, Quick Guide.* http://www.nmfma.org

New Mexico State Historic Preservation Division. 2003. New Mexico Cultural Resources Department of Cultural Affairs. Available at: http://www.nmhistoricpreservation.org/index.php. Accessed 13 January 2010.

Pesman, Walter M. 1992. Meet the Natives: The Amateur's Field Guide to Rocky Mountain Wildflower, Trees and Shrubs. Ninth edition. Denver Botanic Gardens.

Primm, S. 2001a. "NA1304" in *Terrestrial Ecoregions of North America: A Conservation Assessment*. Island Press. Available at: http://worldwildlife.org/wildworld/profiles/terrestrial_na.html.

Primm, S. 2001b. "NA0511" in *Terrestrial Ecoregions of North America: A Conservation Assessment*. Island Press. Available at: http://worldwildlife.org/wildworld/profiles/terrestrial_na.html.

Roberts, Susan A. and Calvin A. Roberts. 2004. *A History of New Mexico.* Albuquerque, NM: University of New Mexico Press.

Sando, Joe S. 1979. "The Pueblo Revolt." in *Handbook of North American Indians: Volume 8, Southwest*. Ed. William C. Sturtevant. pp. 194-197.

Simmons, Marc. 1979. "History of Pueblo-Spanish Relations to 1821." in *Handbook of North American Indians: Volume 8, Southwest.* Ed. William C. Sturtevant. pp. 178-193.

Spencer, Mark/Bureau of Land Management New Mexico. 2010. Email correspondence to Michelle Rau/CH2M HILL."Subject: Environmental Assessment- Balloon Launch/Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base." 19 January.

Texas Historical Commission. 2008. "Fact Sheets." Available at: http://www.thc.state.tx.us/faqs/faqdefault.shtml. Accessed 13 January 2010.

The Center for Climate Strategies. 1995. *New Mexico Greenhouse Gas Inventory and Reference Case Projections, 1990-2020***.** Prepared for the New Mexico Environment Department. July.

The Center for Climate Strategies. 2006. *Final Arizona Greenhouse Gas Inventory and Reference Case Projections 1990-2020*. Prepared for Arizona Climate Change Advisory Group. June.

U.S. Air Force Research Laboratory (AFRL). Undated. Battery Spill Cleanup Procedure.

U.S. Census Bureau. 2007. "American FactFinder." Available at: http://factfinder.census.gov/. Accessed January 2010.

U.S. Environmental Protection Agency (EPA). 2010. NPL Map using Google Maps mapping service. http://www.epa.gov/superfund/sites/query/queryhtm/nplmapsg.htm. Last updated 26 May 2010.

U.S. Environmental Protection Agency (EPA). 2009a. "The Green Book Nonattainment Areas for Criteria Pollutants." Available at: http://www.epa.gov/oar/oaqps/greenbk/. Accessed 23 January 2010.

U.S. Environmental Protection Agency (EPA). 2009b. "Air Data: Access to Air Pollution Data." Available at: http://www.epa.gov/air/data/index.html and http://www.epa.gov/climatechange/emissions/state_ghginventoriesarchive.html. Accessed 23 January 2010.

U.S. Environmental Protection Agency (EPA). 2009c. "Wetland Definitions." Updated 14 September 2009. Available at: http://www.epa.gov/owow/wetlands/what/definitions.html.

U.S. Environmental Protection Agency (EPA). 2009d. "Environmental Justice." Updated 10 December 2009. http://www.epa.gov/compliance/environmentaljustice/.

U.S. Fish and Wildlife Service (USFWS). 2009. *Endangered Species List*. Southwest Region Ecological Services. Updated 9 January 2009. Available at: http://www.fws.gov/southwest/es/EndangeredSpecies/lists/.

U.S. Geological Survey (USGS). 2006. *An Introduction to Biological Soil Crusts*. http://www.soilcrust.org. Updated April 24, 2006

U.S. Geological Survey (USGS). 1999. National Water Summary on Wetland Resources, USGS Water Supply Paper 2425.

Valero, Alejandra. 2001. "Sierra Madre Oriental Pine-Oak Forests (NA0303)." *World Wildlife Fund.* Available at: http://worldwildlife.org/wildworld/profiles/terrestrial_na.html.

Williams, C. et al. 2001. "Chihuahuan Desert (NA1303)." *World Wildlife Fund*. Available at: http://worldwildlife.org/wildworld/profiles/terrestrial_na.html. Accessed January 2010.

Appendix A
Coordination with Agencies and NHPA Coordination Contact List

APPENDIX A
Tribes and Agencies Contacted[a]
Environmental Assessment, Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico – Coordination Contact List

Agency/Tribe	Contact Name	Title	Address	Response Received
Tribes				
New Mexico Tribes				
Pueblo of Acoma	Chandler Sanchez/Randall Vicente	Governor	P.O. Box 309 Acoma, NM 87034	No
Pueblo of Isleta	Robert Benavides/Frank Lujan	Governor	P.O. Box 1270 Isleta Pueblo, NM 87022	No
Pueblo of Laguna	John Antonio, Sr./Richard Luarkie	Governor	P.O. Box 194 Laguna Pueblo, NM 87026	Yes
Jicarilla Apache Nation	Levi Pesata/Ty Vicenti	President/ Vice President	P.O. Box 507 Dulce, NM 87528	No
Mescalero Apache Tribe	Carleton Naiche-Palmer/Mark Chino	President	P.O. Box 227 Mescalero, NM 88340	No
Ohkay Owingeh	Marcelino Aguino/ Ron Lovato	Governor	P.O. Box 1099 San Juan Pueblo, NM 87566	No
Pueblo of Cochiti	John F. Pecos/ Robert Pecos	Governor	P.O. Box 70 Cochiti Pueblo, NM 87072	No
Pueblo of Jemez	David Toledo/ Michael Toledo	Governor	P.O. Box 100 Jemez Pueblo, NM 87024	No
Pueblo of Nambe	Ernest Mirabal	Governor	Route 1, Box 117-BB Santa Fe, NM 87506	No
Pueblo of Picuris	Gerald Nailor	Governor	P.O. Box 127 Penasco, NM 87553	No
Pueblo of Pojoague	George Rivera	Governor	78 Cities of Gold Road Santa Fe, NM 87506	No
Pueblo of Sandia	Joe M. Lujan/ Malcolm Montoya	Governor	481 Sandia Loop Bernalillo, NM 87004	No
Pueblo of Santa Ana	Bruce Sanchez/ Lawrence Montoya	Governor	2 Dove Road Santa Ana Pueblo, NM 87004	Yes
Pueblo of Santa Clara	Walter Dasheno	Governor	P.O. Box 580 Espanola, NM 87532	No
Pueblo of San Felipe	Anthony Ortiz/ Raymond Sandoval	Governor	P.O. Box 4339 San Felipe Pueblo, NM 87001	No
Pueblo San Ildefonso	Leon T Roybal/ Perry Martinez	Governor	Route 5, Box 315-A Santa Fe, NM 87506	No

APPENDIX A
Tribes and Agencies Contacted[a]
Environmental Assessment, Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico – Coordination Contact List

Agency/Tribe	Contact Name	Title	Address	Response Received
Pueblo of Santo Domingo/Kewa	Everett F. Chavez/ David F. Garcia	Governor	P.O. Box 99 Santo Domingo Pueblo, NM 87052	No
Pueblo of Taos	Ruben A Romero/ Nelson J. Cordova	Governor	P.O. Box 1846 Taos, NM 87571	No
Pueblo of Tesuque	Mark Mitchell	Governor	Route 42, Box 360-T Santa Fe, NM 87506	No
Pueblo of Zia	Ivan Pino/ Marcellus Medina	Governor	135 Capitol Square Drive Zia Pueblo, NM 87053-6013	No
Pueblo of Zuni	Norman Cooeyate/ Arlan P. Quetawki, Sr.	Governor	P.O. Box 339 Zuni, NM 87327	No
Arizona Tribes				
Navajo Nation	Joe Shirley, Jr./ Ben Shelly	President	P.O. Box 9000 Window Rock, AZ 86515	Yes
Navajo Nation Council	Lawrence T. Morgan	Speaker	P.O. Box 3390 Window Rock, AZ 86515	No
Hopi Tribe of AZ	Ivan L. Sydney, Sr./ Leroy Ned Shingoitewa	Chairperson	P.O. Box 123 Kykotsmovi, AZ 86039	Yes
Kaibab Paiute Tribal Council	Carmen Bradley/ Timothy L. Rogers	Chairperson	HC65, Box 2 Tribal Affairs Building Fredonia, AZ 86022	No
Las Vegas Tribe of Paiute Indians	Alfreda L. Mitre/ Lucille Campa	Chairperson	One Paiute Drive Las Vegas, NV 89106	No
Moapa Band of Paiute Indians	Tom Dalton/ William Anderson	Chairperson	P.O. Box 340 Moapa, NV 89025-0340	No
Paiute Indian Tribe of UT	Lora Tom/ Jeanine Borchardt	Chairperson	440 N. Paiute Drive Cedar City, UT 84720	No
San Carlos Apache Tribe	Kathleen W. Kitcheyan/Terry Rambler	Chairperson	P.O. Box O San Carlos, AZ 85550	No
White Mountain Apache Cultural Center	Ramon Riley	Chairperson	P.O. Box 507 Fort Apache, AZ 85926	No

APPENDIX A
Tribes and Agencies Contacted[a]
Environmental Assessment, Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico – Coordination Contact List

Agency/Tribe	Contact Name	Title	Address	Response Received
Agencies				
New Mexico Agencies				
Historic Preservation Division Department of Cultural Affairs	Jan V. Biella, RPA	Interim NM SHPO	407 Galisteo Street, Suite 236 Santa Fe, NM 87501	No
U.S. Forest Service	Nancy Rose	Cibola National Forest	2113 Osuna Road, NE Albuquerque, NM 87113	Yes
New Mexico Department of Game and Fish	Tod Stevenson	Director NM Department of Game and Fish	P.O. Box 25112 Santa Fe, NM 87504	No
U.S. Fish and Wildlife Service	Wally Murphy	Field Supervisor	2105 Osuna NE Albuquerque, NM 87113	Yes
BLM New Mexico Office	Linda Rundell	State Director	P.O. Box 27115 Sana Fe, NM 87502-0115	Yes
U.S. Bureau of Reclamation	John Poland	Area Manager	555 Broadway NE, Suite 100 Albuquerque, NM 87102-2352	Yes
Pecos National Historic Park	Daniel J Jacobs	Chief Park Ranger		Yes
Petroglyph National Monument	Julie Sharp	Planning Technician		Yes
Capulin Volcano National Monument	Kimberly Struthers	Natural Resource Program Manager	P.O. Box 40 Des Moines, NM 88418	No
DOE- Los Alamos Lab	Fred deSousa	Environmental Communication	P.O. Box 1663, MS J591 Los Alamos, NM 87545	No
Arizona Agencies				
Arizona SHPO	James Garrison	SHPO	Arizona State Parks 1300 W. Washington Street Phoenix, AZ 85007	Yes
Arizona BLM	Jim Kenna	State Director	One North Central Avenue, Suite 800 Phoenix, AZ 85004-4427	Yes

APPENDIX A
Tribes and Agencies Contacted[a]
Environmental Assessment, Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico – Coordination Contact List

Agency/Tribe	Contact Name	Title	Address	Response Received
Texas Agencies				
Texas Historical Commission	Mark Wolfe	Executive Director and SHPO	P.O. Box 12276 Austin, TX 78701	No
U.S. Forest Service	Linda Brett	Forest Supervisor	415 S. First Street, Suite 110 Lufkin, TX 75901	Yes
U.S. Fish and Wildlife Service	Thomas J. Cloud	Field Supervisor	711 Stadium Drive, Suite 252 Arlington, TX 76011	Yes
Regional Agencies (covering NM, AZ, TX)				
U.S. Fish and Wildlife Service	Dr. Benjamin Tuggle	Southwest Regional Director (covers NM, TX, and AZ)	P.O. Box 1306 Albuquerque, NM 87103-1306	No
U.S. Forest Service	Name not provided	Regional Forester (covers NM and AZ)	333 Broadway SE Albuquerque, NM 87102	No
National Park Service-Intermountain Region	Michael Snyder	Regional Director (covers NM, AZ, and TX)	12795 Alameda Pkwy Lakewood, CO 80228	No
Federal Aviation Administration	Rich Fite	Specialist, Airspace and Procedures	c/o Aletta.Salganek@faa.gov	Yes
U.S. Fish and Wildlife Service	Eric Hein	Endangered Species Biologist	Eric_hein@fws.gov	Yes

[a]All tribes, SHPOs, and THPOs in Arizona, New Mexico, and Texas were contacted. Contact with each sensitive site/resource manager was not feasible; however, coordination with a select number of larger sites/resources and with regional offices will include coordination on all sensitive sites/resources under their purview. Exclusion zones (see Figure 2-2 in the *Environmental Assessment, Balloon Launch and Landing Operations, Air Force Research Laboratory, Space Vehicles Directorate, Kirtland Air Force Base, New Mexico*) include Wilderness Areas, Native American tribal land, surface water bodies, mountainous areas, national parks, state parks, other cultural/natural resources, and other areas that do not meet the landing criteria. These areas were identified through coordination with the contacts listed in this table, publicly available information and data, and Air Force Research Laboratory data.

Notes:

AZ = Arizona
BLM = Bureau of Land Management
CO = Colorado
DOE = U.S. Department of Energy
NM = New Mexico
SHPO = State Historic Preservation Officer
TX = Texas

Appendix B
Coordination with Agencies and NHPA Coordination and Responses

Coordination letters were sent to 48 tribes/agencies in December 2009/January 2010. A second set of coordination letters were sent to two additional agencies (not included in first mailing) in August/September 2010. NHPA letters with Cultural Resources SOP was sent to 34 tribes/agencies in January 2011. Follow-up telephone calls were made to all tribes/agencies. Responses received are presented in Table B-1 and Appendix B5. Letters sent on January 2011 (see Appendix B4) included the Cultural Resources Standard Operation Procedures.

Appendix B contains the following:

- Cultural Resources Standard Operating Procedures
- Table B-1 Tracking Table
- Appendix B1 Letters Sent December 2009
- Appendix B2 Letters Sent January 2010
- Appendix B3 Letters Sent August/September 2010.
- Appendix B4 Letters Sent January 2011
- Appendix B5 Responses Received

Standard Operating Procedures for Protection of Historic Properties
Specific for the Balloon Launch and Landing Events,
Air Force Research Laboratory High-Altitude Balloon Program

NOTE: THIS STANDARD OPERATING PROCEDURE IS MANDATORY FOR THE DURATION OF THE PROJECT, ESTIMATED TO BE 2012-2032; IT MUST BE IMPLEMENTED UNDER COORDINATION WITH THE KIRTLAND AIR FORCE BASE CULTURAL RESOURCE MANAGER

The Cultural Resources Manager (CRM) at Kirtland Air Force Base (AFB) will obtain, prior to project implementation, geodatabases providing location information of Historic Properties situated within the general Area of Potential Effect (APE) of the Air Force Research Laboratory (AFRL) High-Altitude Balloon Program. The general APE encompasses specific counties within the states of New Mexico, Arizona, and Texas (see attached map for counties). Sub-APEs (SAPEs) will be defined by county for each specific landing/recovery event. Historic Properties are defined as any prehistoric or historic district, archaeological site, building, structure, or object that is included in—or eligible for inclusion in—the National Register of Historic Places (36 Code of Federal Regulations [CFR] § 800). The geodatabases will be obtained from sources such as State Historic Preservation Offices (SHPOs) and/or state archaeologists, tribal historic preservation officers (THPOs), and federal or state agencies managing lands within the APE.

Additionally, the CRM will provide training for the balloon technicians regarding the identification and avoidance of Historic Properties not listed on the geodatabases. The CRM will train the balloon technicians to identify Historic Property types common to the general APE. This training will help to minimize possible impacts to unidentified Historic Properties (i.e. inadvertent discoveries) during balloon recovery activities.

Pre-Flight Preparation

Prior to a specific balloon launch event, the balloon technicians will contact the Kirtland AFB CRM with a list of state counties in which the balloon could land. The CRM will examine those specific counties (constituting the SAPE locations) in the appropriate geodatabases in order to determine the presence or absence of identified Historic Properties. The CRM will notify the balloon technicians regarding the results of the geodatabase searches.

a. If no identified Historic Properties are located within the potential landing/recovery SAPEs, the balloon drop will be determined a “no adverse effect” action regarding Historic Properties.

b. If there are identified Historic Properties located within the potential landing/recovery SAPEs, the balloon technicians will plan to avoid landing the balloon within a one-mile radius of any identified Historic Property. Such avoidance is feasible because the balloon’s remote command systems provide position tracking, reporting, and visibility

during the balloon flight. A balloon drop located outside a one-mile radius of any identified Historic Property will also result in a determination of "no adverse effect."

c. An unplanned landing—caused by an unforeseen event or circumstance—*within* a one-mile radius of an identified Historic Property will result in either a "no adverse effect" determination (if no damage has occurred), or an "adverse effect" determination (if damage to the Historic Property has occurred). See the Balloon Landing/Recovery section below for further discussion.

Balloon Launch

Balloons will be launched from established runways at military airfields and municipal airports within the general APE of the project. Therefore no Historic Properties will be present at the launch sites, and the balloon launches will be determined "no adverse effect" actions. Per 36CFR§800.4(d)(1), documentation of this finding of "no adverse effect" concerning balloon launches (letters dated 20 January 2011) has been presented to the applicable SHPO(s)/THPO(s).

Balloon Landing/Recovery

When an AFRL High-Altitude balloon lands, the balloon technicians will notify the land owner/manager (i.e. private land owners, SHPOs, federal and state land managers) and invite the person(s) to inspect the landing/recovery location. Because balloon landings generally occur at night, the technicians typically will contact the appropriate person(s) the next day following balloon recovery activities. If however, the landing occurs during the day or at a reasonable time in the evening, the technicians will notify the land owner/manager and invite them to the balloon recovery activities.

a) In the event that a balloon lands on tribal property, the balloon technicians must first contact the tribal security and/or the THPO to inform the tribe. Second the balloon technicians must be escorted by tribal security and/or the THPO during balloon retrieval activities.

If a balloon inadvertently lands within one mile of an identified Historic Property, the balloon technicians will notify the CRM at Kirtland AFB and the land owner/manager. If the CRM and the land owner/manager determine that damage has occurred to the Historic Property, a qualified archaeologist representing the U.S. Air Force (USAF) will be hired to develop a Memorandum of Agreement (MOA) and mitigation plan with SHPO/THPO approval within a timeline suitable to all parties involved. Also, following provisions of 36CFR§800.6(a)(1) the CRM will notify the Advisory Cuncil on Historic Preservation (ACHP) and coordinate further participation, as necessary with ACHP. The mitigation plan will be implemented to satisfy the National Historic Preservation Act (NHPA) of 1966, as amended.

If the balloon technicians and/or land owner/manager believe they have identified a previously undocumented Historic Property either (1) in transit to recover the balloon or (2) at the

landing/recovery point, the balloon technicians will notify the CRM at Kirtland AFB. The CRM will then coordinate with the land owner/manager regarding the inspection of the SAPE in order to determine if there is in fact a newly identified Historic Property. If a newly identified Historic Property has been discovered, the Kirtland CRM will consult with the land owner/manager regarding documentation of the resource in accordance with state and federal regulations.

If the CRM and the land owner/manager determine that damage has occurred to a Historic Property, a qualified archaeologist representing the USAF will be hired to develop a Memorandum of Agreement (MOA) and mitigation plan with SHPO/THPO approval within a timeline suitable to all parties involved. Also, following provisions of 36CFR§800.6(a)(1) the CRM will notify the ACHP and coordinate further participation, as necessary with ACHP. The mitigation plan will be implemented to satisfy the National Historic Preservation Act (NHPA) of 1966, as amended.

Year-end Summary

The applicable SHPOs/THPOs, federal and state land managers, and private land owners will receive annual reports, generated by the Kirtland CRM and the balloon technicians, regarding the activities of the AFRL High-Altitude Balloon Program. Each report recipient will be given project information specific to the land under their jurisdiction.

VICINITY MAP

LEGEND

- AIR FORCE BASE LOCATION
- STATE CAPITAL
- CITY OVER 250,000
- INTERSTATE
- STATE IN WHICH PROPOSED ACTION WOULD OCCUR
- STATE BOUNDARY
- COUNTY IN WHICH PROPOSED ACTION WOULD OCCUR
- COUNTY
- WATER

N

0 50 100

Miles

FIGURE 1-2
LOCATION OF PROPOSED ACTION
ENVIRONMENTAL ASSESSMENT,
BALLOON LAUNCH AND LANDING OPERATIONS,
AIR FORCE RESEARCH LABORATORY
KIRTLAND AIR FORCE BASE

TABLE B-1

Coordination Tracking Table

Environmental Assessment, Balloon Launch and Lanidn Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico

Agency/Tribe	Contact Name	Title	Address	Phone	Email	Date of Contact	Method of Contact (Letter, Email, Call)	Response Received	Notes/Response	Response Letter/ Record of Conversation
New Mexico Tribes										
Pueblo of Acoma	Chandler Sanchez	Governor	PO Box 309, Acoma, NM 87034	505-552-6604/6605		12/18/2009	letter	None	No response received	No response received
Pueblo of Isleta	Robert Benavides	Governor	PO Box 1270, Isleta Pueblo, NM 87022	505-869-311/6333		12/18/2009	letter	None	No response received	No response received
Pueblo of Laguna	John Antonio, Sr.	Governor	PO Box 194, Laguna Pueblo, NM 87026	505-552-6654/665/6598		12/18/2009	letter	7/7/2010	Letter received from Mr. John Antonio	Laguna_Antonio_070710
Jicarilla Apache Nation	Ty Vicenti	Vice President	P.O. Box 507, Dulce, NM 87528	575- 759-3242		12/18/2009	letter	None	No response received	No response received
Mescalero Apache Tribe	Carleton Naiche-Palmer	President	P.O. Box 227, Mescalero, NM 88340	575-464-4494		12/18/2009	letter	None	No response received	No response received
Ohkay Owingeh	Marcelino Aguino	Governor	P.O. Box 1099, San Juan Pueblo, NM 87566	(505) 852-4400/4210		12/18/2009	letter	None	No response received	No response received
Peublo of Cochiti	John F. Pecos	Governor	P.O. Box 70, Cochiti Pueblo, NM 87072	(505) 465-2244		12/18/2009	letter	None	No response received	No response received
Pueblo of Jemez	David Toledo	Governor	P.O. Box 100, Jemez Pueblo, NM 87024	(575) 834-7359		12/18/2009	letter	None	No response received	No response received
Pueblo of Nambe	Ernest Mirabal	Governor	Route 1, Box 117-BB, Santa Fe, NM 87506	(505) 455-2036		12/18/2009	letter	None	No response received	No response received
Pueblo of Picuris	Gerald Nailor	Governor	P.O. Box 127, Penasco, NM 87553	(575) 587-2519		12/18/2009	letter	None	No response received	No response received
Pueblo of Pojoague	George Rivera	Governor	78 Cities of Gold Road, Santa Fe, NM 87506	(505) 455-3334		12/18/2009	letter	None	No response received	No response received
Pueblo of Sandia	Joe M. Lujan	Governor	481 Sandia Loop, Bernalillo, NM 87004	(505) 867-3317		12/18/2009	letter	None	No response received	No response received
Pueblo of Santa Ana	Bruce Sanchez	Governor	2 Dove Road, Santa Ana Pueblo, NM 87004	(505) 867-3301		12/18/2009	letter	12/23/2010	letter received from James Merkel Intel Officer	SantaAna_Merkel_122909 .pdf
Pueblo of Santa Clara	Walter Dasheno	Governor	P.O. Box 580, Espanola, NM 87532	(505) 753-7330/7326		12/18/2009	letter	None	No response received	No response received
Pueblo of San Felipe	Anthony Ortiz	Governor	P.O. Box 4339, San Felipe Pueblo, NM 87001	(505) 867-3381/3382		12/18/2009	letter	None	No response received	No response received
Pueblo San Ildefonso	Leon T Roybal	Governor	Route 5, Box 315-A, Santa Fe, NM 87506	(505) 455-2273		12/18/2009	letter	None	No response received	No response received
Pueblo of Santo Domingo	Everett F. Chavez	Governor	P.O. Box 99, Santo Domingo Pueblo, NM 87052	(505) 465-2214		12/18/2009	letter	None	No response received	No response received
Pueblo of Taos	Ruben A Romero	Governor	P.O. Box 1846, Taos, NM 87571	(575) 758-9593		12/18/2009	letter	None	No response received	No response received
Pueblo of Tesuque	Mark Mitchell	Governor	Route 42, Box 360-T, Santa Fe, NM 87506	(505) 955-7732		12/18/2009	letter	None	No response received	No response received
Pueblo of Zia	Ivan Pino	Governor	135 Capitol Square Dr., Zia Pueblo, NM 87053-6013	(505) 867-3304		12/18/2009	letter	None	No response received	No response received
Pueblo of Zuni	Norman Cooeyate	Governor	P.O. Box 339, Zuni, NM 87327	(505) 782-7022		12/18/2009	letter	None	No response received	No response received
New Mexico Agencies										
Historic Preservation Division Department of Cultural Affairs	Jan V. Biella, RPA	Interim NM SHPO	407 Galisteo St., Suite 236, Santa Fe, NM 87501	505-827-4045	jan.biella@state.nm.us	12/18/2009	letter	None	No response received	No response received
US Forest Service	Nancy Rose	Cibola National Forest	2113 Osuna Rd., NE, Albuquerque, NM 87113	505-346-3804	nrose@fs.fed.us	12/18/2009, 1/4/2010	letter, call	1/4/2010	M. Rau/CH2M HILL talked with Donald Hall, Nancy Rose's designated POC. WE would need to go to the individual field offices to gather additional data. It is not available electronically.	USFScibola_Rose_010410
NM Department of Game and Fish	Tod Stevenson	Director NMDGF	PO Box 25112 Santa Fe, NM 87504	505-476-8000		12/18/2009, 1/19/2010	letter, call	None	M. Rau/CH2M HILL called 1/19/2010 and left a message with Terra Manesco (505-476-8114)	No response received

TABLE B-1

Coordination Tracking Table

Environmental Assessment, Balloon Launch and Lanidn Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico

Agency/Tribe	Contact Name	Title	Address	Phone	Email	Date of Contact	Method of Contact (Letter, Email, Call)	Response Received	Notes/Response	Response Letter/ Record of Conversation
US FWS	Wally Murphy	Field Supervisor	2105 Osuna NE, Albuquerque, NM	505-346-2525		12/18/2009	letter	1/12/2010	Received letter	FWSnewmexico_Murphy_011210.
BLM New Mexico Office	Linda Rundell	State Director	P.O. Box 27115, Sana Fe NM 87502-0115	505-954-2000		12/18/2009, 1/19/2010	letter,call	1/19/2010	M. Rau/CH2M HILL talked to Mark Spencer (Planner) 1/19/2010, he sent e-mail/letter outlining concerns.	BLMnewmexico_Spencer_011810 BLMnewmexico_Spencer_letter_011910
US Bureau of Rec	John Poland	Area Manager	555 Broadway NE, suite 100, Albuquerque, NM 87102-2352	505-462-3542	mandrews@usbr.gov	12/18/2009	letter	1/8/2010	Response was by Mike Andrew, Lead Reality Specialist	Reclamation_Andrews_010810.pdf
Pecos National Historic Park	Daniel J Jacobs	Chief Park Ranger		505-757-7235	Daniel_J_Jacobs@nps.gov	12/18/2009	Letter was sent to NPS main office in NM	1/5/2010	attached .jpeg was only an excerpt from the original letter	PecosNHP_Jacobs_010510.pdf
Petroglyph National Monument	Julie Sharp	Planning Tech		303-987-6705	Julie_Sharp@nps.gov	12/18/2009	Letter was sent to NPS main office in NM	1/5/2010	Requests that we include Mike Medrano and Ron fields informed	PetroglyphNM_Sharp_010510.pdf
Capulin Volcano National Monument	Kimberly Struthers	Natural Resource Program Manager	PO Box 40, Des Moines, NM 88418	575-278-2201 ext 230	Kim_Struthers@nps.gov	12/18/2009	Letter was sent to NPS main office in NM	1/5/2010	requested to be added to contact list	NPS_Struthers_012910
DOE- Los Alamos Lab	Fred deSousa	Environmental Communication	PO Box 1663, MS J591, Los Alamos, NM 87545			1/29/2010	letter	None	No response received	No response received
New Mexico NHPA Letters w/SOP										
Historic Preservation Division Department of Cultural Affairs	Jan V. Biella, RPA	Interim NM SHPO	407 Galisteo St., Suite 236, Santa Fe, NM 87501	505-827-4045	jan.biella@state.nm.us	1/20/2011	Letter w/SOP	9/1/2011	Letter response received/No comment	NMSHPO_Biella_09012011.pdf "No comment"
Jicarilla Apache Nation	Levi Pesata	President	P.O. Box 507, Dulce, NM 87528	575- 759-3242		1/20/2011	Letter w/SOP/called 3/28/11	None	Voice message w/ Deidre Vicewe for President	No response received
Mescalero Apache Tribe	Mark Chino	President	P.O. Box 227, Mescalero, NM 88340	575-464-4494		1/20/2011	Letter w/SOP/called 3/28/11	None	Spoke w/ Joylynn Blake For President	No response received
Ohkay Owingeh	Ron Lovato	Governor	P.O. Box 1099, San Juan Pueblo, NM 87566	(505) 852-4400/4210		1/20/2011	Letter w/SOP/called 3/28/11	None	Spoke w/ Queenie Torres, faxed letter for Governor	No response received
Pueblo of Acoma	Randall Vicente	Governor	PO Box 309, Acoma, NM 87034	505-552-6604/6605		1/20/2011	Letter w/SOP/called 3/28/11	None	left voice message w/ Roseann for Governor	No response received
Peublo of Cochiti	Robert Pecos	Governor	P.O. Box 70, Cochiti Pueblo, NM 87072	(505) 465-2244		1/20/2011	Letter w/SOP/called 3/28/11	None	voice message w/ Darlene and faxed letter for Governor	No response received
Pueblo of Isleta	Frank Lujan	Governor	PO Box 1270, Isleta Pueblo, NM 87022	505-869-311/6333		1/20/2011	Letter w/SOP/called 3/28/11	4/11/2011	Left voice message w/ Elaine for Governor and faxed letter	Concur that project will have no impact on cultural/religious sites affiliated with the Pueblo of Isleta.
Pueblo of Jemez	Michael Toledo	Governor	P.O. Box 100, Jemez Pueblo, NM 87024	(575) 834-7359		1/20/2011	Letter w/SOP/called 3/28/11	None	Left voice message w/ Yvonne for Governor	No response received
Pueblo of Laguna	Richard Luarkie	Governor	PO Box 194, Laguna Pueblo, NM 87026	505-552-6654/665/6598		1/20/2011	Letter w/SOP/called 3/28/11	2/14/2011	See "Response Letter"	Project will not have a significant impact. Request notification of discovery of new archaeological sites or findings.
Pueblo of Nambe	Ernest Mirabal	Governor	Route 1, Box 117-BB, Santa Fe, NM 87506	(505) 455-2036		1/20/2011	Letter w/SOP/called 3/28/11	3/28/2011	Spoke w/ Onnie Martinez	"no comment"
Pueblo of Picuris	Gerald Nailor	Governor	P.O. Box 127, Penasco, NM 87553	(575) 587-2519		1/20/2011	Letter w/SOP/called 3/28/11	None	Left voice message w/ Edwina Pacheco and faxed letter for Governor	No response received
Pueblo of Pojoague	George Rivera	Governor	78 Cities of Gold Road, Santa Fe, NM 87506	(505) 455-3334		1/20/2011	Letter w/SOP/called 3/28/11	1/20/2011	Spoke w/ Melissa Talachy	"no comment"
Pueblo of Sandia	Malcolm Montoya	Governor	481 Sandia Loop, Bernalillo, NM 87004	(505) 867-3317		1/20/2011	Letter w/SOP/called 3/28/11	None	Left voice message w/ Frank Chavez for Governor	No response received
Pueblo of Santa Ana	Lawrence Montoya	Governor	2 Dove Road, Santa Ana Pueblo, NM 87004	(505) 867-3301		1/20/2011	Letter w/SOP	2/9/2011	Gov. Montoya contacted K. M. Friedrichsen to say that he has no problem with the documentation. He provided 2 POCs for any further discussions	No response received

TABLE B-1

Coordination Tracking Table

Environmental Assessment, Balloon Launch and Lanidn Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico

Agency/Tribe	Contact Name	Title	Address	Phone	Email	Date of Contact	Method of Contact (Letter, Email, Call)	Response Received	Notes/Response	Response Letter/ Record of Conversation
Pueblo of Santa Clara	Walter Dasheno	Governor	P.O. Box 580, Espanola, NM 87532	(505) 753-7330/7326		1/20/2011	Letter w/SOP/ called 3/31/11	None	Left voice message w/ Jessica for Governor	No response received
Pueblo of San Felipe	Raymond Sandoval	Governor	P.O. Box 4339, San Felipe Pueblo, NM 87001	(505) 867-3381/3382		1/20/2011	Letter w/SOP/ called 3/31/11	None	Left voice message w/ Joan Sardy for Governor	No response received
Pueblo San Ildefonso	Perry Martinez	Governor	Route 5, Box 315-A, Santa Fe, NM 87506	(505) 455-2273		1/20/2011	Letter w/SOP/ called 3/31/11	None	Left voice message w/ Lt. Governor Brian Montoya for Governor	No response received
Kewa Pueblo	David f. Garcia	Governor	P.O. Box 99, Santo Domingo Pueblo, NM 87052			1/20/2011	Letter w/SOP/ called 3/31/11	None	Left voice message w/ Beverly for Governor	No response received
Pueblo of Taos	Nelson J. Cordova	Governor	P.O. Box 1846, Taos, NM 87571	(575) 758-9593		1/20/2011	Letter w/SOP/ called 3/31/11	None	Left voice message w/ Tina and faxed letter for Governor	No response received
Pueblo of Tesuque	Mark Mitchell	Governor	Route 42, Box 360-T, Santa Fe, NM 87506	(505) 955-7732		1/20/2011	Letter w/SOP/ called 3/31/11	None	No answer	No response received
Pueblo of Zia	Marcellus Medina	Governor	135 Capitol Square Dr., Zia Pueblo, NM 87053-6013	(505) 867-3304		1/20/2011	Letter w/SOP/ called 3/31/11	None	Left voice message w/ Tammy for Governor	No response received
Pueblo of Zuni	Arlan P. Quetawki Sr.	Governor	P.O. Box 339, Zuni, NM 87327	(505) 782-7022		1/20/2011	Letter w/SOP/ called 3/31/11	None	Left voice message w/ Vicky for Governor	No response received
Arizona Tribes										
Navajo Nation	Joe Shirley, Jr.	President	PO Box 9000, Window Rock, AZ 86515	928-871- 6352/6357		12/18/2009	letter	2/24/2010	Concured with findings	NavajoNation_Joe_022410
Navajo Nation Council	Lawrence T. Morgan	Speaker	PO Box 3390, Window Rock, AZ 86515	928-871-7160		12/18/2009	letter	None	No response received	No response received
Hopi Tribe of AZ	Ivan L. Sydney Sr	Chairperson	PO Box 123, Kykotsmovi, AZ 86039	928-734-3100		1/29/2010	letter	2/8/2010	Concured with findings	HopiArizona_021610
Kaibab Paiute	Carmen Bradley	Chairperson	HC65, Box 2, Tribal Affairs Build. Fredonia, AZ 86022	928-643-7245		1/29/2010	letter	None	No response received	No response received
Las Vegas Tribe of Paiute Indians	Alfreda L. Mitre	Chairperson	One Paiute Dr, Las Vegas, NV 89106	702-386-3926		1/29/2010	letter	None	No response received	No response received
Moapa Band of Paiute Indians	Tom Dalton	Chairperson	PO Box 340, Moapa, NV 89025-0340	702-865-2787		1/29/2010	letter	None	No response received	No response received
Paiute Indian Tribe of UT	Lora Tom	Chairperson	440 N. Paiute Dr, Cedar City, UT 84720	435-586-1112		1/29/2010	letter	None	No response received	No response received
San Carlos Apache Tribe	Kathleen W. Kitcheyan	Chairperson	PO Box O, San Carlos, AZ 85550	928-475-2361		1/29/2010	letter	None	No response received	No response received
White Mountain Apache Tribe	Ramon Riley	Chairperson	PO Box 507, Fort Apache, AZ 85926	928-338-4625		1/29/2010	letter	None	No response received	No response received
Arizona Agencies										
Arizona SHPO	James Garrison	SHPO	Arizona State Parks, 1300 W. Washington Street, Phoenix, AZ 85007	602-542-4009		12/18/2009	letter	1/15/2010	Concured with findings	SHPOarizona_Howard_011510
Arizona BLM	Jim Kenna	State Director	One North Central Avenue, suite 800, Phoenix, AZ 85004-4427	602-417-9200		12/18/2009	letter	1/13/2010	Response from Thomas Schnell	BLMarizona_Schnell_011910

TABLE B-1

Coordination Tracking Table

Environmental Assessment, Balloon Launch and Lanidn Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico

Agency/Tribe	Contact Name	Title	Address	Phone	Email	Date of Contact	Method of Contact (Letter, Email, Call)	Response Received	Notes/Response	Response Letter/ Record of Conversation
Arizona NHPA Letters w/SOP										
Arizona SHPO	James Garrison	SHPO	Arizona State Parks, 1300 W. Washington Street, Phoenix, AZ 85007			1/20/2011	Letter w/SOP	3/1/2011	Concur-contingent upon avoidance measures in SOP and upon concurrence from respective land managers and THPOs.	SHPO-AZ-Garrison_03012011
Navajo Nation	Ben Shelly	President	PO Box 9000, Window Rock, AZ 86515	928-871- 6352/6357		1/20/2011; 3/31/11	Letter w/SOP;called	None	No response received	called and was directed to Mr. Ron Maldonado (THPO). He was out of town and we left a message.
Navajo Nation Council	Lawrence T. Morgan	Speaker	PO Box 3390, Window Rock, AZ 86515	928-871-7160		1/20/2011; 3/31/11	Letter w/SOP;	None	No response received	No response received
White Mountain Apache Cultural Center	Ramon Riley		PO Box 507, Fort Apache, AZ 85926			1/20/2011; 3/31/11	Letter w/SOP;called	3/31/2011	No response received	Spoke with Ramon Riley, who said he would look into and call back if there was a problem.
Moapa Band of Paiutes Business Council	William Anderson		1 Lincoln St., PO Box 340, Moapa, NV 89025			1/20/2011; 3/31/11	Letter w/SOP;called	3/31/2011	No comments	"no comments" per William Anderson
Las Vegas Paiute Tribal Council	Lucille Campa		One Paiute Drive, Las Vegas, NV 89106			1/20/2011; 3/31/11	Letter w/SOP;called	3/31/2011	No comments	"no comments" per Pat Peckinpaugh-tribal secretary.
Paiute Indian Tribe of Utah Tribal Council	Jeanine Borchardt		440 N. Paiute Dr, Cedar City, UT 84720			1/20/2011; 3/31/11	Letter w/SOP;called	3/31/2011	No comments	"no comments" per Borchardt
San Carlos Apache Tribe	Terry Rambler	Chairperson	PO Box 0, San Carlos, AZ 85550	928-475-2361		1/20/2011; 3/31/11	Letter w/SOP;called	None	No response received	faxed letter to Tamayia White
Hopi Tribal Council	Leroy Ned Shingoitewa		PO Box 123, Kykotsmovi, AZ 86039			1/20/2011; 3/31/11	Letter w/SOP;called	2/14/2011	Concur with 1/25/11 letter	Hopi_Shingoitewa_02142011
Kaibab Paiute Tribal Council	Timothy L. Rogers		NC 65, Box 2, Tribal Affairs Building, Fredonia, AZ 86022			1/20/2011; 3/31/11	Letter w/SOP;called	None	No response received	Left message for manuel Savala (new Chairman)
Navajo Nation Council	Lawrence T. Morgan	Speaker	PO Box 3390, Window Rock, AZ 86515			1/20/2011; 3/31/11	Letter w/SOP;called	None	No response received	No response received
Texas Agencies										
Texas Historical Commission	Mark Wolfe	Executive Director and SHPO	P.O. Box 12276, Austin, TX 78701	512-936-4323		12/18/2009	letter	None	No response received	No response received
US Forest Service	Linda Brett	Forest Supervisor	415 S. First Street, Ste 110, Lufkin, Texas 75901	936-639-8501		12/18/2009, 1/19/2010	letter, call	1/19/2010	M. Rau/CH2M HILL spoke with Vicky Gauer.She reported that Linda Brett is "fine with the project".	USFStexas_Gauer_012010
US FWS	Thomas J Cloud	Field Supervisor	711 Stadium Dr, Suite 252, Arlington, TX 76011			12/18/2009	letter was sent to FWS main office in NM	12/22/2009	Response letter only covers Dawson, Gaines, Lynn, Terry and Yoalum counties	ArlingtonTX FWS_Cloud_122209.pdf
Texas NHPA Letters w/SOP										
Texas Historical Commission	Mark Wolfe	Executive Director and SHPO	P.O. Box 12276, Austin, TX 78701	512-936-4323		01/20/11	Letter w/ SOP	None	No response received	No response received
Multi State Agencies										
US Fish and Wildlife Service	Dr. Benjamin Tuggle	Southwest Regional Director (covers NM, TX and AZ)	PO Box 1306, Albuquerque, NM 87103-1306	505-853-0017	RDTuggle@fws.gov	12/18/2009, 1/19/2010	letter, call	1/19/2010	M. Rau/CH2M HILL called 1/19/10, talked to Tom Buckley (505-248-6455), he will check into issue and call back with more information	No response received
US Forest Service	name not provided	Regional Forester (covers NM and AZ)	333 Broadway SE, Albuquerque, NM 87102	505-842-3300		12/18/2009	letter	None	No response received	No response received
National Park Service-Intermountain Region	Michael Snyder	Regional Director (covers NM,AZ and TX)	12795 Alameda Pkwy, Lakewood, CO 80228	303-969-2500		12/18/2009	letter	None	No response received	No response received

TABLE B-1

Coordination Tracking Table

Environmental Assessment, Balloon Launch and Lanidn Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico

Agency/Tribe	Contact Name	Title	Address	Phone	Email	Date of Contact	Method of Contact (Letter, Email, Call)	Response Received	Notes/Response	Response Letter/ Record of Conversation
FAA	Rich Fite	SPECIALIST, AIRSPACE AND PROCEDURES ALBUQUERQUEARTCC		(505) 856-4531	Aletta.Salganek@faa.gov	9/2/2010	letter	9/9/2010	Response letter	FAA_Salganek_091410
USFWS- Section 7	Eric Hein	Endangered Species Biologist		505-761-4735	ERIC_HEIN@FWS.GOV	9/13/2010	letter, email	9/13/2010	E.Hein explained it is up the agency to determine if there is affect on the T&E species. Carol Finley of Kirtland determined "no effect"	USFWS_Hein_91310 Finley_Kirtland_091410_sect7

Note:

Coordination letters were sent to 48 tribes/agencies in December 2009/January 2010. A second set of coordination letters were sent to two additional agencies (not included in first mailing) in August/September 2010. NHPA letters with Cultural Resources SOP was sent to 34 tribes/agencies in January 2011. Follow-up telephone calls were made to all tribes/agencies. Responses received are presented in Table B-1 and Appendix B5. Letters sent on January 2011 (see Appendix B4) included the Cultural Resources Standard Operation Procedures.

Appendix B1
Letters Sent December 2009

DEPARTMENT OF THE AIR FORCE

AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Nancy Rose
US Forest Service
2113 Osuna Rd., NE
Albuquerque, NM 87113

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117

SUBJECT: Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

1. The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) located at Kirtland Air Force Base is preparing an Environmental Assessment (EA) for conducting medium- to high- altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth). Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1-1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp and away from towns and cities. Landing and recovery sites would be planned for areas with existing unpaved roads, and to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. The EA will evaluate potential environmental effects resulting from the Proposed Action and No Action Alternative. We anticipate a draft EA will be made available for public and agency comment in the spring of 2010.

2. The AFRL/RV is soliciting your input on sensitive resources, located within the counties shown on Figure 1 under your jurisdiction, potentially affected by the Proposed Action. Additionally, AFRL/RV is requesting information regarding requirements for property access for recovery of balloon equipment on lands under your control.

3. Our contractor for this project is CH2M HILL. We would appreciate your cooperation during data collection efforts. Please provide your responses to Ms. Lyna Black, Environmental Planner, CH2M HILL, at (530)229-3295 or by email at lblack@ch2m.com on or before January 8, 2010.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Enclosures:
Figure 1: Location of Proposed Action

VICINITY MAP

LEGEND

- AIR FORCE BASE LOCATION
- STATE CAPITAL
- CITY OVER 250,000
- STATE IN WHICH PROPOSED ACTION WOULD OCCUR
- STATE BOUNDARY
- COUNTY IN WHICH PROPOSED ACTION WOULD OCCUR
- COUNTY
- INTERSTATE
- WATER

0 50 100
Miles

FIGURE 1
LOCATION OF PROPOSED ACTION
ENVIRONMENTAL ASSESSMENT,
BALLOON LAUNCH AND LANDING OPERATIONS,
AIR FORCE RESEARCH LABORATORY
KIRTLAND AIR FORCE BASE

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Tod Stevenson
NM Department of Game and Fish
PO Box 25112
Santa Fe, NM 87504

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117

SUBJECT: Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

1. The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) located at Kirtland Air Force Base is preparing an Environmental Assessment (EA) for conducting medium- to high- altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth). Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1-1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp and away from towns and cities. Landing and recovery sites would be planned for areas with existing unpaved roads, and to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. The EA will evaluate potential environmental effects resulting from the Proposed Action and No Action Alternative. We anticipate a draft EA will be made available for public and agency comment in the spring of 2010.

2. The AFRL/RV is soliciting your input on sensitive resources, located within the counties shown on Figure 1 under your jurisdiction, potentially affected by the Proposed Action. Additionally, AFRL/RV is requesting information regarding requirements for property access for recovery of balloon equipment on lands under your control.

3. Our contractor for this project is CH2M HILL. We would appreciate your cooperation during data collection efforts. Please provide your responses to Ms. Lyna Black, Environmental Planner, CH2M HILL, at (530)229-3295 or by email at lblack@ch2m.com on or before January 8, 2010.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Enclosures:
Figure 1: Location of Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Linda Rundell
BLM New Mexico Office
P.O. Box 27115
Sana Fe NM 87502-0115

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117

SUBJECT: Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

1. The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) located at Kirtland Air Force Base is preparing an Environmental Assessment (EA) for conducting medium- to high- altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth). Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1-1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp and away from towns and cities. Landing and recovery sites would be planned for areas with existing unpaved roads, and to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. The EA will evaluate potential environmental effects resulting from the Proposed Action and No Action Alternative. We anticipate a draft EA will be made available for public and agency comment in the spring of 2010.

2. The AFRL/RV is soliciting your input on sensitive resources, located within the counties shown on Figure 1 under your jurisdiction, potentially affected by the Proposed Action. Additionally, AFRL/RV is requesting information regarding requirements for property access for recovery of balloon equipment on lands under your control.

3. Our contractor for this project is CH2M HILL. We would appreciate your cooperation during data collection efforts. Please provide your responses to Ms. Lyna Black, Environmental Planner, CH2M HILL, at (530)229-3295 or by email at lblack@ch2m.com on or before January 8, 2010.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Enclosures:
Figure 1: Location of Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: John Poland
US Bureau of Rec
555 Broadway NE, suite 100
Albuquerque, NM 87102-2352

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117

SUBJECT: Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

1. The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) located at Kirtland Air Force Base is preparing an Environmental Assessment (EA) for conducting medium- to high- altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth). Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1-1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp and away from towns and cities. Landing and recovery sites would be planned for areas with existing unpaved roads, and to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. The EA will evaluate potential environmental effects resulting from the Proposed Action and No Action Alternative. We anticipate a draft EA will be made available for public and agency comment in the spring of 2010.

2. The AFRL/RV is soliciting your input on sensitive resources, located within the counties shown on Figure 1 under your jurisdiction, potentially affected by the Proposed Action. Additionally, AFRL/RV is requesting information regarding requirements for property access for recovery of balloon equipment on lands under your control.

3. Our contractor for this project is CH2M HILL. We would appreciate your cooperation during data collection efforts. Please provide your responses to Ms. Lyna Black, Environmental Planner, CH2M HILL, at (530)229-3295 or by email at lblack@ch2m.com on or before January 8, 2010.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Enclosures:
Figure 1: Location of Proposed Action

DEPARTMENT OF THE AIR FORCE

AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Regional Forester
US Forest Service
333 Broadway SE
Albuquerque, NM 87102

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117

SUBJECT: Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

1. The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) located at Kirtland Air Force Base is preparing an Environmental Assessment (EA) for conducting medium- to high- altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth). Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1-1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp and away from towns and cities. Landing and recovery sites would be planned for areas with existing unpaved roads, and to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. The EA will evaluate potential environmental effects resulting from the Proposed Action and No Action Alternative. We anticipate a draft EA will be made available for public and agency comment in the spring of 2010.

2. The AFRL/RV is soliciting your input on sensitive resources, located within the counties shown on Figure 1 under your jurisdiction, potentially affected by the Proposed Action. Additionally, AFRL/RV is requesting information regarding requirements for property access for recovery of balloon equipment on lands under your control.

3. Our contractor for this project is CH2M HILL. We would appreciate your cooperation during data collection efforts. Please provide your responses to Ms. Lyna Black, Environmental Planner, CH2M HILL, at (530)229-3295 or by email at lblack@ch2m.com on or before January 8, 2010.

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Enclosures:
Figure 1: Location of Proposed Action

DEPARTMENT OF THE AIR FORCE

AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Jim Kenna
Arizona BLM
One North Central Avenue, Suite 800
Phoenix, AZ 85004-4427

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117

SUBJECT: Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

1. The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) located at Kirtland Air Force Base is preparing an Environmental Assessment (EA) for conducting medium- to high- altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth). Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1-1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp and away from towns and cities. Landing and recovery sites would be planned for areas with existing unpaved roads, and to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. The EA will evaluate potential environmental effects resulting from the Proposed Action and No Action Alternative. We anticipate a draft EA will be made available for public and agency comment in the spring of 2010.

2. The AFRL/RV is soliciting your input on sensitive resources, located within the counties shown on Figure 1 under your jurisdiction, potentially affected by the Proposed Action. Additionally, AFRL/RV is requesting information regarding requirements for property access for recovery of balloon equipment on lands under your control.

3. Our contractor for this project is CH2M HILL. We would appreciate your cooperation during data collection efforts. Please provide your responses to Ms. Lyna Black, Environmental Planner, CH2M HILL, at (530)229-3295 or by email at lblack@ch2m.com on or before January 8, 2010.

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Enclosures:
Figure 1: Location of Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: National Park Service- Intermountain Region
Michael Snyder
Regional Director (covers NM, AZ, and TX)
12795 Alameda Pkwy
Denver, CO 80225

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117

SUBJECT: Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

1. The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) located at Kirtland Air Force Base is preparing an Environmental Assessment (EA) for conducting medium- to high- altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth). Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1-1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp and away from towns and cities. Landing and recovery sites would be planned for areas with existing unpaved roads, and to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. The EA will evaluate potential environmental effects resulting from the Proposed Action and No Action Alternative. We anticipate a draft EA will be made available for public and agency comment in the spring of 2010.

2. The AFRL/RV is soliciting your input on sensitive resources, located within the counties shown on Figure 1 under your jurisdiction, potentially affected by the Proposed Action. Additionally, AFRL/RV is requesting information regarding requirements for property access for recovery of balloon equipment on lands under your control.

3. Our contractor for this project is CH2M HILL. We would appreciate your cooperation during data collection efforts. Please provide your responses to Ms. Lyna Black, Environmental Planner, CH2M HILL, at (530)229-3295 or by email at lblack@ch2m.com on or before January 8, 2010.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachment:
Figure 1: Location of Proposed Action

DEPARTMENT OF THE AIR FORCE

AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Arizona SHPO
James Garrison
SHPO
1300 W. Washington Street
Phoenix, AZ 85007

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Environmental Assessment for Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is preparing an Environmental Assessment (EA) of potential impacts resulting from implementation of the Proposed Action and alternatives. The assessment will be prepared in accordance with United States Air Force (USAF or Air Force) requirements under the National Environmental Policy Act of 1969 (NEPA).

The AFRL/RV must also consider the effects of the projects on cultural resources potentially eligible for or listed on the National Register of Historic Places in accordance with the National Historic Preservation Act (NHPA).

The AFRL/RV is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth). The mission of the AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. The AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in the attached Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. The AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If

conditions are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas (see Figure 1).

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover the balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

In order to invite comment from Native Americans, we will also initiate consultation with the Navajo Nation, Pueblo of Acoma, Pueblo of Isleta, and Pueblo of Laguna.

The AFRL/RV has made a determination of "no historic properties affected" in accordance with 36 CFR 800.4(d) (1) and that further studies are not justified for this action. We request your concurrence with our determination of "no historic properties affected" by the proposed action. Your office also will be provided with a copy of the draft EA for further review and comment prior to the issuance of the decision document for this project.

Please contact me at (505)853-7926, or via email at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

Sincerely,

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of Proposed Action

DEPARTMENT OF THE AIR FORCE

AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Texas Historical Commission
Mark Wolfe
Executive Director and SHPO
P.O. Box 12276
Austin, TX 78701

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Environmental Assessment for Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is preparing an Environmental Assessment (EA) of potential impacts resulting from implementation of the Proposed Action and alternatives. The assessment will be prepared in accordance with United States Air Force (USAF or Air Force) requirements under the National Environmental Policy Act of 1969 (NEPA).

The AFRL/RV must also consider the effects of the projects on cultural resources potentially eligible for or listed on the National Register of Historic Places in accordance with the National Historic Preservation Act (NHPA).

The AFRL/RV is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth). The mission of the AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. The AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in the attached Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. The AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If

conditions are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas (see Figure 1).

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover the balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

In order to invite comment from Native Americans, we will also initiate consultation with the Navajo Nation, Pueblo of Acoma, Pueblo of Isleta, and Pueblo of Laguna.

The AFRL/RV has made a determination of "no historic properties affected" in accordance with 36 CFR 800.4(d) (1) and that further studies are not justified for this action. We request your concurrence with our determination of "no historic properties affected" by the proposed action. Your office also will be provided with a copy of the draft EA for further review and comment prior to the issuance of the decision document for this project.

Please contact me at (505)853-7926, or via email at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

Sincerely,

K M Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of Proposed Action

DEPARTMENT OF THE AIR FORCE

AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Historic Preservation Division Department of Cultural Affairs
Jan V. Biella, RPA
Interim NM SHPO
407 Galisteo St., Suite 236
Santa Fe, NM 87501

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Environmental Assessment for Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is preparing an Environmental Assessment (EA) of potential impacts resulting from implementation of the Proposed Action and alternatives. The assessment will be prepared in accordance with United States Air Force (USAF or Air Force) requirements under the National Environmental Policy Act of 1969 (NEPA).

The AFRL/RV must also consider the effects of the projects on cultural resources potentially eligible for or listed on the National Register of Historic Places in accordance with the National Historic Preservation Act (NHPA).

The AFRL/RV is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth). The mission of the AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. The AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in the attached Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. The AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If

conditions are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas (see Figure 1).

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover the balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

In order to invite comment from Native Americans, we will also initiate consultation with the Navajo Nation, Pueblo of Acoma, Pueblo of Isleta, and Pueblo of Laguna.

The AFRL/RV has made a determination of "no historic properties affected" in accordance with 36 CFR 800.4(d) (1) and that further studies are not justified for this action. We request your concurrence with our determination of "no historic properties affected" by the proposed action. Your office also will be provided with a copy of the draft EA for further review and comment prior to the issuance of the decision document for this project.

Please contact me at (505)853-7926, or via email at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

Sincerely,

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: U.S. Fish and Wildlife Service
Dr. Benjamin Tuggle
Southwest Regional Director (covers NM, TX, and AZ)
P.O. Box 1306
Albuquerque, NM 87103-1306

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117

SUBJECT: Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

1. The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) located at Kirtland Air Force Base is preparing an Environmental Assessment (EA) for conducting minimum- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth). Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned for areas with existing unpaved roads and to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources.

2. This EA will analyze the potential effects of this Proposed Action on environmental resources. Pursuant to the Endangered Species Act and the National Environmental Policy Act, we request information regarding federally listed or proposed species that may be present in the potentially affected area. We would appreciate receiving the information in digital format, if available. We anticipate a draft EA will be made available for public and agency comment in spring 2010.

3. We also request information regarding requirements for property access for recovery of balloon equipment on U.S. Fish and Wildlife Service lands.

4. Our contractor for this project is CH2M HILL. We would appreciate your cooperation during data collection efforts. Please provide your responses to Ms. Lynda Black, Environmental Planner, CH2M HILL, at (530)229-3295 or by email at lblack@ch2m.com on or before January 8, 2010.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Enclosures:
Figure 1: Location of Proposed Action

DEPARTMENT OF THE AIR FORCE

AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: US Forest Service
Linda Brett
Forest Supervisor
415 S. First Street, Suite 110
Lufkin, TX 75901

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117

SUBJECT: Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

1. The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) located at Kirtland Air Force Base is preparing an Environmental Assessment (EA) for conducting medium- to high- altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth). Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1-1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp and away from towns and cities. Landing and recovery sites would be planned for areas with existing unpaved roads, and to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. The EA will evaluate potential environmental effects resulting from the Proposed Action and No Action Alternative. We anticipate a draft EA will be made available for public and agency comment in the spring of 2010.

2. The AFRL/RV is soliciting your input on sensitive resources, located within the counties shown on Figure 1 under your jurisdiction, potentially affected by the Proposed Action. Additionally, AFRL/RV is requesting information regarding requirements for property access for recovery of balloon equipment on lands under your control.

3. Our contractor for this project is CH2M HILL. We would appreciate your cooperation during data collection efforts. Please provide your responses to Ms. Lyna Black, Environmental Planner, CH2M HILL, at (530)229-3295 or by email at lblack@ch2m.com on or before January 8, 2010.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachment:
Figure 1: Location of Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

Governor Chandler Sanchez
PO Box 309
Acoma, NM 87034

Dear Governor Sanchez,

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth).

The purpose of this letter is to coordinate and solicit input to identify sensitive resources that could potentially be affected by the Proposed Action. Additionally, AFRL/RV would like your input on property access requirements for balloon operation and recovery of equipment on tribal lands.

The mission of AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, and recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If winds, humidity, air quality, and temperature are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas. However, balloon operations are not expected to cause any significant impacts on cultural resources. The proposed launches would primarily occur at established airfields and would not involve any ground-disturbing activities. Therefore, effects on

cultural resources would be unlikely. Additionally, extensive monitoring and tracking before and during the operation provide accuracy in termination and landing and allow avoidance of sensitive areas.

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

Please accept this correspondence as per the National Historic Preservation Act (NHPA), as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. In accordance with the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

Please let us know if there are areas of particular cultural concern that we should avoid and if there are any special access requirements needed to enter the tribal lands.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in the area to invite them to consult with us on this issue.

We look forward to working with you or your designated representative. Please provide input to Mr. Kent Friedrichsen at (505)853-7926 or via email at kent.friedrichsen@kirtland.af.mil by January 8, 2010. If we do not hear from you by that time, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact Mr. Friedrichsen.

Sincerely,

K M Friedrichsen

KENT M. FRIEDRICHSEN,
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

Governor Robert Benavides
PO Box 1270
Isleta Pueblo, NM 87022

Dear Governor Benavides,

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth).

The purpose of this letter is to coordinate and solicit input to identify sensitive resources that could potentially be affected by the Proposed Action. Additionally, AFRL/RV would like your input on property access requirements for balloon operation and recovery of equipment on tribal lands.

The mission of AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, and recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If winds, humidity, air quality, and temperature are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas. However, balloon operations are not expected to cause any significant impacts on cultural resources. The proposed launches would primarily occur at established airfields and would not involve any ground-disturbing activities. Therefore, effects on

cultural resources would be unlikely. Additionally, extensive monitoring and tracking before and during the operation provide accuracy in termination and landing and allow avoidance of sensitive areas.

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

Please accept this correspondence as per the National Historic Preservation Act (NHPA), as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. In accordance with the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

Please let us know if there are areas of particular cultural concern that we should avoid and if there are any special access requirements needed to enter the tribal lands.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in the area to invite them to consult with us on this issue.

We look forward to working with you or your designated representative. Please provide input to Mr. Kent Friedrichsen at (505)853-7926 or via email at kent.friedrichsen@kirtland.af.mil by January 8, 2010. If we do not hear from you by that time, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact Mr. Friedrichsen.

Sincerely,

KM Friedrichsen

KENT M. FRIEDRICHSEN,
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

Governor John Antonio, Sr.
PO Box 194
Laguna Pueblo, NM 87026

Dear Governor Antonio,

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth).

The purpose of this letter is to coordinate and solicit input to identify sensitive resources that could potentially be affected by the Proposed Action. Additionally, AFRL/RV would like your input on property access requirements for balloon operation and recovery of equipment on tribal lands.

The mission of AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, and recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If winds, humidity, air quality, and temperature are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas. However, balloon operations are not expected to cause any significant impacts on cultural resources. The proposed launches would primarily occur at established airfields and would not involve any ground-disturbing activities. Therefore, effects on

cultural resources would be unlikely. Additionally, extensive monitoring and tracking before and during the operation provide accuracy in termination and landing and allow avoidance of sensitive areas.

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

Please accept this correspondence as per the National Historic Preservation Act (NHPA), as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. In accordance with the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

Please let us know if there are areas of particular cultural concern that we should avoid and if there are any special access requirements needed to enter the tribal lands.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in the area to invite them to consult with us on this issue.

We look forward to working with you or your designated representative. Please provide input to Mr. Kent Friedrichsen at (505)853-7926 or via email at kent.friedrichsen@kirtland.af.mil by January 8, 2010. If we do not hear from you by that time, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact Mr. Friedrichsen.

Sincerely,

KM Friedrichsen

KENT M. FRIEDRICHSEN,
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

Vice President Ty Vicenti
P.O. Box 507
Dulce, NM 87528

Dear Vice President Vicenti,

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth).

The purpose of this letter is to coordinate and solicit input to identify sensitive resources that could potentially be affected by the Proposed Action. Additionally, AFRL/RV would like your input on property access requirements for balloon operation and recovery of equipment on tribal lands.

The mission of AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, and recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If winds, humidity, air quality, and temperature are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas. However, balloon operations are not expected to cause any significant impacts on cultural resources. The proposed launches would primarily occur at established airfields and would not involve any ground-disturbing activities. Therefore, effects on

cultural resources would be unlikely. Additionally, extensive monitoring and tracking before and during the operation provide accuracy in termination and landing and allow avoidance of sensitive areas.

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

Please accept this correspondence as per the National Historic Preservation Act (NHPA), as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. In accordance with the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

Please let us know if there are areas of particular cultural concern that we should avoid and if there are any special access requirements needed to enter the tribal lands.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in the area to invite them to consult with us on this issue.

We look forward to working with you or your designated representative. Please provide input to Mr. Kent Friedrichsen at (505)853-7926 or via email at kent.friedrichsen@kirtland.af.mil by January 8, 2010. If we do not hear from you by that time, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact Mr. Friedrichsen.

Sincerely,

K M Friedrichsen

KENT M. FRIEDRICHSEN,
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

President Carleton Naiche-Palmer
P.O. Box 227
Mescalero, NM 88340

Dear President Naiche-Palmer,

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth).

The purpose of this letter is to coordinate and solicit input to identify sensitive resources that could potentially be affected by the Proposed Action. Additionally, AFRL/RV would like your input on property access requirements for balloon operation and recovery of equipment on tribal lands.

The mission of AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, and recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If winds, humidity, air quality, and temperature are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas. However, balloon operations are not expected to cause any significant impacts on cultural resources. The proposed launches would primarily occur at established airfields and would not involve any ground-disturbing activities. Therefore, effects on

cultural resources would be unlikely. Additionally, extensive monitoring and tracking before and during the operation provide accuracy in termination and landing and allow avoidance of sensitive areas.

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

Please accept this correspondence as per the National Historic Preservation Act (NHPA), as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. In accordance with the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

Please let us know if there are areas of particular cultural concern that we should avoid and if there are any special access requirements needed to enter the tribal lands.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in the area to invite them to consult with us on this issue.

We look forward to working with you or your designated representative. Please provide input to Mr. Kent Friedrichsen at (505)853-7926 or via email at kent.friedrichsen@kirtland.af.mil by January 8, 2010. If we do not hear from you by that time, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact Mr. Friedrichsen.

Sincerely,

KM Friedrichsen

KENT M. FRIEDRICHSEN,
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

Governor Marcelino Aguino
P.O. Box 1099
San Juan Pueblo, NM 87566

Dear Governor Aguino,

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth).

The purpose of this letter is to coordinate and solicit input to identify sensitive resources that could potentially be affected by the Proposed Action. Additionally, AFRL/RV would like your input on property access requirements for balloon operation and recovery of equipment on tribal lands.

The mission of AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, and recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If winds, humidity, air quality, and temperature are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas. However, balloon operations are not expected to cause any significant impacts on cultural resources. The proposed launches would primarily occur at established airfields and would not involve any ground-disturbing activities. Therefore, effects on

cultural resources would be unlikely. Additionally, extensive monitoring and tracking before and during the operation provide accuracy in termination and landing and allow avoidance of sensitive areas.

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

Please accept this correspondence as per the National Historic Preservation Act (NHPA), as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. In accordance with the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

Please let us know if there are areas of particular cultural concern that we should avoid and if there are any special access requirements needed to enter the tribal lands.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in the area to invite them to consult with us on this issue.

We look forward to working with you or your designated representative. Please provide input to Mr. Kent Friedrichsen at (505)853-7926 or via email at kent.friedrichsen@kirtland.af.mil by January 8, 2010. If we do not hear from you by that time, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact Mr. Friedrichsen.

Sincerely,

KM Friedrichsen

KENT M. FRIEDRICHSEN,
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

Governor John F. Pecos
P.O. Box 70
Cochiti Pueblo, NM 87072

Dear Governor Pecos,

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth).

The purpose of this letter is to coordinate and solicit input to identify sensitive resources that could potentially be affected by the Proposed Action. Additionally, AFRL/RV would like your input on property access requirements for balloon operation and recovery of equipment on tribal lands.

The mission of AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, and recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If winds, humidity, air quality, and temperature are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas. However, balloon operations are not expected to cause any significant impacts on cultural resources. The proposed launches would primarily occur at established airfields and would not involve any ground-disturbing activities. Therefore, effects on

cultural resources would be unlikely. Additionally, extensive monitoring and tracking before and during the operation provide accuracy in termination and landing and allow avoidance of sensitive areas.

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

Please accept this correspondence as per the National Historic Preservation Act (NHPA), as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. In accordance with the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

Please let us know if there are areas of particular cultural concern that we should avoid and if there are any special access requirements needed to enter the tribal lands.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in the area to invite them to consult with us on this issue.

We look forward to working with you or your designated representative. Please provide input to Mr. Kent Friedrichsen at (505)853-7926 or via email at kent.friedrichsen@kirtland.af.mil by January 8, 2010. If we do not hear from you by that time, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact Mr. Friedrichsen.

Sincerely,

KM Friedrichsen

KENT M. FRIEDRICHSEN,
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

Governor David Toledo
P.O. Box 100
Jemez Pueblo, NM 87024

Dear Governor Toledo,

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth).

The purpose of this letter is to coordinate and solicit input to identify sensitive resources that could potentially be affected by the Proposed Action. Additionally, AFRL/RV would like your input on property access requirements for balloon operation and recovery of equipment on tribal lands.

The mission of AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, and recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If winds, humidity, air quality, and temperature are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas. However, balloon operations are not expected to cause any significant impacts on cultural resources. The proposed launches would primarily occur at established airfields and would not involve any ground-disturbing activities. Therefore, effects on

cultural resources would be unlikely. Additionally, extensive monitoring and tracking before and during the operation provide accuracy in termination and landing and allow avoidance of sensitive areas.

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

Please accept this correspondence as per the National Historic Preservation Act (NHPA), as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. In accordance with the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

Please let us know if there are areas of particular cultural concern that we should avoid and if there are any special access requirements needed to enter the tribal lands.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in the area to invite them to consult with us on this issue.

We look forward to working with you or your designated representative. Please provide input to Mr. Kent Friedrichsen at (505)853-7926 or via email at kent.friedrichsen@kirtland.af.mil by January 8, 2010. If we do not hear from you by that time, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact Mr. Friedrichsen.

Sincerely,

KM Friedrichsen

KENT M. FRIEDRICHSEN,
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

Governor Ernest Mirabal
Route 1, Box 117-BB
Santa Fe, NM 87506

Dear Governor Mirabal,

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth).

The purpose of this letter is to coordinate and solicit input to identify sensitive resources that could potentially be affected by the Proposed Action. Additionally, AFRL/RV would like your input on property access requirements for balloon operation and recovery of equipment on tribal lands.

The mission of AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, and recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If winds, humidity, air quality, and temperature are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas. However, balloon operations are not expected to cause any significant impacts on cultural resources. The proposed launches would primarily occur at established airfields and would not involve any ground-disturbing activities. Therefore, effects on

cultural resources would be unlikely. Additionally, extensive monitoring and tracking before and during the operation provide accuracy in termination and landing and allow avoidance of sensitive areas.

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

Please accept this correspondence as per the National Historic Preservation Act (NHPA), as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. In accordance with the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

Please let us know if there are areas of particular cultural concern that we should avoid and if there are any special access requirements needed to enter the tribal lands.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in the area to invite them to consult with us on this issue.

We look forward to working with you or your designated representative. Please provide input to Mr. Kent Friedrichsen at (505)853-7926 or via email at kent.friedrichsen@kirtland.af.mil by January 8, 2010. If we do not hear from you by that time, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact Mr. Friedrichsen.

Sincerely,

KM Friedrichsen

KENT M. FRIEDRICHSEN,
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

Governor Gerald Nailor
P.O. Box 127
Penasco, NM 87553

Dear Governor Nailor,

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth).

The purpose of this letter is to coordinate and solicit input to identify sensitive resources that could potentially be affected by the Proposed Action. Additionally, AFRL/RV would like your input on property access requirements for balloon operation and recovery of equipment on tribal lands.

The mission of AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, and recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If winds, humidity, air quality, and temperature are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas. However, balloon operations are not expected to cause any significant impacts on cultural resources. The proposed launches would primarily occur at established airfields and would not involve any ground-disturbing activities. Therefore, effects on

cultural resources would be unlikely. Additionally, extensive monitoring and tracking before and during the operation provide accuracy in termination and landing and allow avoidance of sensitive areas.

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

Please accept this correspondence as per the National Historic Preservation Act (NHPA), as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. In accordance with the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

Please let us know if there are areas of particular cultural concern that we should avoid and if there are any special access requirements needed to enter the tribal lands.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in the area to invite them to consult with us on this issue.

We look forward to working with you or your designated representative. Please provide input to Mr. Kent Friedrichsen at (505)853-7926 or via email at kent.friedrichsen@kirtland.af.mil by January 8, 2010. If we do not hear from you by that time, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact Mr. Friedrichsen.

Sincerely,

KM Friedrichsen

KENT M. FRIEDRICHSEN,
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

Governor George Rivera
78 Cities of Gold Road
Santa Fe, NM 87506

Dear Governor Rivera,

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth).

The purpose of this letter is to coordinate and solicit input to identify sensitive resources that could potentially be affected by the Proposed Action. Additionally, AFRL/RV would like your input on property access requirements for balloon operation and recovery of equipment on tribal lands.

The mission of AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, and recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If winds, humidity, air quality, and temperature are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas. However, balloon operations are not expected to cause any significant impacts on cultural resources. The proposed launches would primarily occur at established airfields and would not involve any ground-disturbing activities. Therefore, effects on

cultural resources would be unlikely. Additionally, extensive monitoring and tracking before and during the operation provide accuracy in termination and landing and allow avoidance of sensitive areas.

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

Please accept this correspondence as per the National Historic Preservation Act (NHPA), as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. In accordance with the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

Please let us know if there are areas of particular cultural concern that we should avoid and if there are any special access requirements needed to enter the tribal lands.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in the area to invite them to consult with us on this issue.

We look forward to working with you or your designated representative. Please provide input to Mr. Kent Friedrichsen at (505)853-7926 or via email at kent.friedrichsen@kirtland.af.mil by January 8, 2010. If we do not hear from you by that time, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact Mr. Friedrichsen.

Sincerely,

KM Friedrichsen

KENT M. FRIEDRICHSEN,
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

Governor Joe M. Lujan
481 Sandia Loop
Bernalillo, NM 87004

Dear Governor Lujan,

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth).

The purpose of this letter is to coordinate and solicit input to identify sensitive resources that could potentially be affected by the Proposed Action. Additionally, AFRL/RV would like your input on property access requirements for balloon operation and recovery of equipment on tribal lands.

The mission of AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, and recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If winds, humidity, air quality, and temperature are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas. However, balloon operations are not expected to cause any significant impacts on cultural resources. The proposed launches would primarily occur at established airfields and would not involve any ground-disturbing activities. Therefore, effects on

cultural resources would be unlikely. Additionally, extensive monitoring and tracking before and during the operation provide accuracy in termination and landing and allow avoidance of sensitive areas.

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

Please accept this correspondence as per the National Historic Preservation Act (NHPA), as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. In accordance with the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

Please let us know if there are areas of particular cultural concern that we should avoid and if there are any special access requirements needed to enter the tribal lands.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in the area to invite them to consult with us on this issue.

We look forward to working with you or your designated representative. Please provide input to Mr. Kent Friedrichsen at (505)853-7926 or via email at kent.friedrichsen@kirtland.af.mil by January 8, 2010. If we do not hear from you by that time, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact Mr. Friedrichsen.

Sincerely,

KM Friedrichsen

KENT M. FRIEDRICHSEN,
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

Governor Bruce Sanchez
2 Dove Road
Santa Ana Pueblo, NM 87004

Dear Governor Sanchez,

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth).

The purpose of this letter is to coordinate and solicit input to identify sensitive resources that could potentially be affected by the Proposed Action. Additionally, AFRL/RV would like your input on property access requirements for balloon operation and recovery of equipment on tribal lands.

The mission of AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, and recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If winds, humidity, air quality, and temperature are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas. However, balloon operations are not expected to cause any significant impacts on cultural resources. The proposed launches would primarily occur at established airfields and would not involve any ground-disturbing activities. Therefore, effects on

cultural resources would be unlikely. Additionally, extensive monitoring and tracking before and during the operation provide accuracy in termination and landing and allow avoidance of sensitive areas.

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

Please accept this correspondence as per the National Historic Preservation Act (NHPA), as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. In accordance with the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

Please let us know if there are areas of particular cultural concern that we should avoid and if there are any special access requirements needed to enter the tribal lands.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in the area to invite them to consult with us on this issue.

We look forward to working with you or your designated representative. Please provide input to Mr. Kent Friedrichsen at (505)853-7926 or via email at kent.friedrichsen@kirtland.af.mil by January 8, 2010. If we do not hear from you by that time, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact Mr. Friedrichsen.

Sincerely,

KM Friedrichsen

KENT M. FRIEDRICHSEN,
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

Governor Walter Dasheno
P.O. Box 580
Espanola, NM 87532

Dear Governor Dasheno,

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth).

The purpose of this letter is to coordinate and solicit input to identify sensitive resources that could potentially be affected by the Proposed Action. Additionally, AFRL/RV would like your input on property access requirements for balloon operation and recovery of equipment on tribal lands.

The mission of AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, and recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If winds, humidity, air quality, and temperature are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas. However, balloon operations are not expected to cause any significant impacts on cultural resources. The proposed launches would primarily occur at established airfields and would not involve any ground-disturbing activities. Therefore, effects on

cultural resources would be unlikely. Additionally, extensive monitoring and tracking before and during the operation provide accuracy in termination and landing and allow avoidance of sensitive areas.

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

Please accept this correspondence as per the National Historic Preservation Act (NHPA), as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. In accordance with the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

Please let us know if there are areas of particular cultural concern that we should avoid and if there are any special access requirements needed to enter the tribal lands.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in the area to invite them to consult with us on this issue.

We look forward to working with you or your designated representative. Please provide input to Mr. Kent Friedrichsen at (505)853-7926 or via email at kent.friedrichsen@kirtland.af.mil by January 8, 2010. If we do not hear from you by that time, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact Mr. Friedrichsen.

Sincerely,

KM Friedrichsen

KENT M. FRIEDRICHSEN,
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

Governor Anthony Ortiz
P.O. Box 4339
San Felipe Pueblo, NM 87001

Dear Governor Ortiz,

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth).

The purpose of this letter is to coordinate and solicit input to identify sensitive resources that could potentially be affected by the Proposed Action. Additionally, AFRL/RV would like your input on property access requirements for balloon operation and recovery of equipment on tribal lands.

The mission of AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, and recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If winds, humidity, air quality, and temperature are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas. However, balloon operations are not expected to cause any significant impacts on cultural resources. The proposed launches would primarily occur at established airfields and would not involve any ground-disturbing activities. Therefore, effects on

cultural resources would be unlikely. Additionally, extensive monitoring and tracking before and during the operation provide accuracy in termination and landing and allow avoidance of sensitive areas.

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

Please accept this correspondence as per the National Historic Preservation Act (NHPA), as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. In accordance with the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

Please let us know if there are areas of particular cultural concern that we should avoid and if there are any special access requirements needed to enter the tribal lands.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in the area to invite them to consult with us on this issue.

We look forward to working with you or your designated representative. Please provide input to Mr. Kent Friedrichsen at (505)853-7926 or via email at kent.friedrichsen@kirtland.af.mil by January 8, 2010. If we do not hear from you by that time, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact Mr. Friedrichsen.

Sincerely,

KM Friedrichsen

KENT M. FRIEDRICHSEN,
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

Governor Leon T Roybal
Route 5, Box 315-A
Santa Fe, NM 87506

Dear Governor Roybal,

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth).

The purpose of this letter is to coordinate and solicit input to identify sensitive resources that could potentially be affected by the Proposed Action. Additionally, AFRL/RV would like your input on property access requirements for balloon operation and recovery of equipment on tribal lands.

The mission of AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, and recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If winds, humidity, air quality, and temperature are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas. However, balloon operations are not expected to cause any significant impacts on cultural resources. The proposed launches would primarily occur at established airfields and would not involve any ground-disturbing activities. Therefore, effects on

cultural resources would be unlikely. Additionally, extensive monitoring and tracking before and during the operation provide accuracy in termination and landing and allow avoidance of sensitive areas.

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

Please accept this correspondence as per the National Historic Preservation Act (NHPA), as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. In accordance with the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

Please let us know if there are areas of particular cultural concern that we should avoid and if there are any special access requirements needed to enter the tribal lands.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in the area to invite them to consult with us on this issue.

We look forward to working with you or your designated representative. Please provide input to Mr. Kent Friedrichsen at (505)853-7926 or via email at kent.friedrichsen@kirtland.af.mil by January 8, 2010. If we do not hear from you by that time, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact Mr. Friedrichsen.

Sincerely,

KM Friedrichsen

KENT M. FRIEDRICHSEN,
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

Governor Everett F. Chavez
P.O. Box 99
Santo Domingo Pueblo, NM 87052

Dear Governor Chavez,

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth).

The purpose of this letter is to coordinate and solicit input to identify sensitive resources that could potentially be affected by the Proposed Action. Additionally, AFRL/RV would like your input on property access requirements for balloon operation and recovery of equipment on tribal lands.

The mission of AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, and recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If winds, humidity, air quality, and temperature are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas. However, balloon operations are not expected to cause any significant impacts on cultural resources. The proposed launches would primarily occur at established airfields and would not involve any ground-disturbing activities. Therefore, effects on

cultural resources would be unlikely. Additionally, extensive monitoring and tracking before and during the operation provide accuracy in termination and landing and allow avoidance of sensitive areas.

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

Please accept this correspondence as per the National Historic Preservation Act (NHPA), as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. In accordance with the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

Please let us know if there are areas of particular cultural concern that we should avoid and if there are any special access requirements needed to enter the tribal lands.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in the area to invite them to consult with us on this issue.

We look forward to working with you or your designated representative. Please provide input to Mr. Kent Friedrichsen at (505)853-7926 or via email at kent.friedrichsen@kirtland.af.mil by January 8, 2010. If we do not hear from you by that time, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact Mr. Friedrichsen.

Sincerely,

KM Friedrichsen

KENT M. FRIEDRICHSEN,
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

Governor Ruben A. Romero
P.O. Box 1846
Taos, NM 87571

Dear Governor Romero,

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth).

The purpose of this letter is to coordinate and solicit input to identify sensitive resources that could potentially be affected by the Proposed Action. Additionally, AFRL/RV would like your input on property access requirements for balloon operation and recovery of equipment on tribal lands.

The mission of AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, and recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If winds, humidity, air quality, and temperature are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas. However, balloon operations are not expected to cause any significant impacts on cultural resources. The proposed launches would primarily occur at established airfields and would not involve any ground-disturbing activities. Therefore, effects on

cultural resources would be unlikely. Additionally, extensive monitoring and tracking before and during the operation provide accuracy in termination and landing and allow avoidance of sensitive areas.

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

Please accept this correspondence as per the National Historic Preservation Act (NHPA), as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. In accordance with the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

Please let us know if there are areas of particular cultural concern that we should avoid and if there are any special access requirements needed to enter the tribal lands.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in the area to invite them to consult with us on this issue.

We look forward to working with you or your designated representative. Please provide input to Mr. Kent Friedrichsen at (505)853-7926 or via email at kent.friedrichsen@kirtland.af.mil by January 8, 2010. If we do not hear from you by that time, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact Mr. Friedrichsen.

Sincerely,

KM Friedrichsen

KENT M. FRIEDRICHSEN,
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

Governor Mark Mitchell
Route 42, Box 360-T
Santa Fe, NM 87506

Dear Governor Mitchell,

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth).

The purpose of this letter is to coordinate and solicit input to identify sensitive resources that could potentially be affected by the Proposed Action. Additionally, AFRL/RV would like your input on property access requirements for balloon operation and recovery of equipment on tribal lands.

The mission of AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, and recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If winds, humidity, air quality, and temperature are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas. However, balloon operations are not expected to cause any significant impacts on cultural resources. The proposed launches would primarily occur at established airfields and would not involve any ground-disturbing activities. Therefore, effects on

cultural resources would be unlikely. Additionally, extensive monitoring and tracking before and during the operation provide accuracy in termination and landing and allow avoidance of sensitive areas.

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

Please accept this correspondence as per the National Historic Preservation Act (NHPA), as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. In accordance with the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

Please let us know if there are areas of particular cultural concern that we should avoid and if there are any special access requirements needed to enter the tribal lands.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in the area to invite them to consult with us on this issue.

We look forward to working with you or your designated representative. Please provide input to Mr. Kent Friedrichsen at (505)853-7926 or via email at kent.friedrichsen@kirtland.af.mil by January 8, 2010. If we do not hear from you by that time, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact Mr. Friedrichsen.

Sincerely,

KM Friedrichsen

KENT M. FRIEDRICHSEN,
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

Governor Ivan Pino
135 Capitol Square Dr.
Zia Pueblo, NM 87053-6013

Dear Governor Pino,

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth).

The purpose of this letter is to coordinate and solicit input to identify sensitive resources that could potentially be affected by the Proposed Action. Additionally, AFRL/RV would like your input on property access requirements for balloon operation and recovery of equipment on tribal lands.

The mission of AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, and recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If winds, humidity, air quality, and temperature are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas. However, balloon operations are not expected to cause any significant impacts on cultural resources. The proposed launches would primarily occur at established airfields and would not involve any ground-disturbing activities. Therefore, effects on

cultural resources would be unlikely. Additionally, extensive monitoring and tracking before and during the operation provide accuracy in termination and landing and allow avoidance of sensitive areas.

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

Please accept this correspondence as per the National Historic Preservation Act (NHPA), as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. In accordance with the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

Please let us know if there are areas of particular cultural concern that we should avoid and if there are any special access requirements needed to enter the tribal lands.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in the area to invite them to consult with us on this issue.

We look forward to working with you or your designated representative. Please provide input to Mr. Kent Friedrichsen at (505)853-7926 or via email at kent.friedrichsen@kirtland.af.mil by January 8, 2010. If we do not hear from you by that time, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact Mr. Friedrichsen.

Sincerely,

KM Friedrichsen

KENT M. FRIEDRICHSEN,
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

Governor Norman Cooeyate
P.O. Box 339
Zuni, NM 87327

Dear Governor Cooeyate,

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth).

The purpose of this letter is to coordinate and solicit input to identify sensitive resources that could potentially be affected by the Proposed Action. Additionally, AFRL/RV would like your input on property access requirements for balloon operation and recovery of equipment on tribal lands.

The mission of AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, and recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If winds, humidity, air quality, and temperature are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas. However, balloon operations are not expected to cause any significant impacts on cultural resources. The proposed launches would primarily occur at established airfields and would not involve any ground-disturbing activities. Therefore, effects on

cultural resources would be unlikely. Additionally, extensive monitoring and tracking before and during the operation provide accuracy in termination and landing and allow avoidance of sensitive areas.

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

Please accept this correspondence as per the National Historic Preservation Act (NHPA), as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. In accordance with the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

Please let us know if there are areas of particular cultural concern that we should avoid and if there are any special access requirements needed to enter the tribal lands.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in the area to invite them to consult with us on this issue.

We look forward to working with you or your designated representative. Please provide input to Mr. Kent Friedrichsen at (505)853-7926 or via email at kent.friedrichsen@kirtland.af.mil by January 8, 2010. If we do not hear from you by that time, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact Mr. Friedrichsen.

Sincerely,

KM Friedrichsen

KENT M. FRIEDRICHSEN,
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

President Joe Shirley, Jr.
PO Box 9000
Window Rock, AZ 86515

Dear President Shirley,

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth).

The purpose of this letter is to coordinate and solicit input to identify sensitive resources that could potentially be affected by the Proposed Action. Additionally, AFRL/RV would like your input on property access requirements for balloon operation and recovery of equipment on tribal lands.

The mission of AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, and recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If winds, humidity, air quality, and temperature are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas. However, balloon operations are not expected to cause any significant impacts on cultural resources. The proposed launches would primarily occur at established airfields and would not involve any ground-disturbing activities. Therefore, effects on

cultural resources would be unlikely. Additionally, extensive monitoring and tracking before and during the operation provide accuracy in termination and landing and allow avoidance of sensitive areas.

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

Please accept this correspondence as per the National Historic Preservation Act (NHPA), as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. In accordance with the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

Please let us know if there are areas of particular cultural concern that we should avoid and if there are any special access requirements needed to enter the tribal lands.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in the area to invite them to consult with us on this issue.

We look forward to working with you or your designated representative. Please provide input to Mr. Kent Friedrichsen at (505)853-7926 or via email at kent.friedrichsen@kirtland.af.mil by January 8, 2010. If we do not hear from you by that time, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact Mr. Friedrichsen.

Sincerely,

KM Friedrichsen

KENT M. FRIEDRICHSEN,
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

Speaker Lawrence T. Morgan
PO Box 3390
Window Rock, AZ 86515

Dear Speaker Morgan,

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth).

The purpose of this letter is to coordinate and solicit input to identify sensitive resources that could potentially be affected by the Proposed Action. Additionally, AFRL/RV would like your input on property access requirements for balloon operation and recovery of equipment on tribal lands.

The mission of AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, and recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If winds, humidity, air quality, and temperature are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas. However, balloon operations are not expected to cause any significant impacts on cultural resources. The proposed launches would primarily occur at established airfields and would not involve any ground-disturbing activities. Therefore, effects on

cultural resources would be unlikely. Additionally, extensive monitoring and tracking before and during the operation provide accuracy in termination and landing and allow avoidance of sensitive areas.

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

Please accept this correspondence as per the National Historic Preservation Act (NHPA), as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. In accordance with the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

Please let us know if there are areas of particular cultural concern that we should avoid and if there are any special access requirements needed to enter the tribal lands.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in the area to invite them to consult with us on this issue.

We look forward to working with you or your designated representative. Please provide input to Mr. Kent Friedrichsen at (505)853-7926 or via email at kent.friedrichsen@kirtland.af.mil by January 8, 2010. If we do not hear from you by that time, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact Mr. Friedrichsen.

Sincerely,

KM Friedrichsen

KENT M. FRIEDRICHSEN,
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of Proposed Action

Appendix B2
Letters Sent January 2010

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

Alfreda L. Mitre
Las Vegas Tribal Council
One Paiute Drive
Las Vegas, NV 89106

Dear Ms. Mitre:

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth).

The purpose of this letter is to coordinate and solicit input to identify sensitive resources that could potentially be affected by the Proposed Action. Additionally, AFRL/RV would like your input on property access requirements for balloon operation recovery of equipment on tribal lands.

The mission of the AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, and recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If winds, humidity, air quality, and temperature are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas. However, balloon operations are not expected to cause any significant impacts on cultural resources. The proposed launches would primarily occur at

established airfields and would not involve any ground-disturbing activities. Therefore, effects on cultural resources would be unlikely. Additionally, extensive monitoring and tracking before and during the operation provide accuracy in termination and landing and allow avoidance of sensitive areas.

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

Please accept this correspondence a as per the National Historic Preservation Act (NHPA), as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. In accordance with the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

Please let us know if there are areas of particular cultural concern that we should avoid and if there are any special access requirements needed to enter the tribal lands.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in the area to invite them to consult with us on this issue.

We look forward to working with you or your designated representative. Please provide input to Mr. Kent Friedrichsen at (505) 853-7926 or via email at kent.friedrichsen@kirtland.af.mil by February 12, 2010. If we do not hear from you by that time, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact Mr. Friedrichsen.

Sincerely,

K.M. Friedrichsen

K.M. Friedrichsen
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of the Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

Mr. Tom Dalton
Moapa Business Council
PO Box 340
Moapa, NV 89025

Dear Mr. Dalton:

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth).

The purpose of this letter is to coordinate and solicit input to identify sensitive resources that could potentially be affected by the Proposed Action. Additionally, AFRL/RV would like your input on property access requirements for balloon operation recovery of equipment on tribal lands.

The mission of the AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, and recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If winds, humidity, air quality, and temperature are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas. However, balloon operations are not expected to cause any significant impacts on cultural resources. The proposed launches would primarily occur at

established airfields and would not involve any ground-disturbing activities. Therefore, effects on cultural resources would be unlikely. Additionally, extensive monitoring and tracking before and during the operation provide accuracy in termination and landing and allow avoidance of sensitive areas.

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

Please accept this correspondence a as per the National Historic Preservation Act (NHPA), as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. In accordance with the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

Please let us know if there are areas of particular cultural concern that we should avoid and if there are any special access requirements needed to enter the tribal lands.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in the area to invite them to consult with us on this issue.

We look forward to working with you or your designated representative. Please provide input to Mr. Kent Friedrichsen at (505) 853-7926 or via email at kent.friedrichsen@kirtland.af.mil by February 12, 2010. If we do not hear from you by that time, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact Mr. Friedrichsen.

Sincerely,

K M Friedrichsen

K.M. Friedrichsen
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of the Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

Ms. Lora Tom
Paiute Indian Tribe of Utah Tribal Council
440 N. Paiute Dr
Cedar City, UT 84720-2613

Dear Ms. Tom:

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth).

The purpose of this letter is to coordinate and solicit input to identify sensitive resources that could potentially be affected by the Proposed Action. Additionally, AFRL/RV would like your input on property access requirements for balloon operation recovery of equipment on tribal lands.

The mission of the AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, and recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If winds, humidity, air quality, and temperature are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas. However, balloon operations are not expected to cause

any significant impacts on cultural resources. The proposed launches would primarily occur at established airfields and would not involve any ground-disturbing activities. Therefore, effects on cultural resources would be unlikely. Additionally, extensive monitoring and tracking before and during the operation provide accuracy in termination and landing and allow avoidance of sensitive areas.

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

Please accept this correspondence a as per the National Historic Preservation Act (NHPA), as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. In accordance with the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

Please let us know if there are areas of particular cultural concern that we should avoid and if there are any special access requirements needed to enter the tribal lands.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in the area to invite them to consult with us on this issue.

We look forward to working with you or your designated representative. Please provide input to Mr. Kent Friedrichsen at (505) 853-7926 or via email at kent.friedrichsen@kirtland.af.mil by February 12, 2010. If we do not hear from you by that time, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact Mr. Friedrichsen.

Sincerely,

K M Friedrichsen

K.M. Friedrichsen
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of the Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY
KIRTLAND AIR FORCE BASE NEW MEXICO 87117-5776

AFRL/RVOI
3550 Abeerdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

Ms. Kathleen W. Kitcheyan
San Carlos Tribal Council
PO Box O
San Carlos, AZ 85550

Dear Ms. Kitcheyan:

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth).

The purpose of this letter is to coordinate and solicit input to identify sensitive resources that could potentially be affected by the Proposed Action. Additionally, AFRL/RV would like your input on property access requirements for balloon operation recovery of equipment on tribal lands.

The mission of the AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, and recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If winds, humidity, air quality, and temperature are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas. However, balloon operations are not expected to cause any significant impacts on cultural resources. The proposed launches would primarily occur at established airfields and would not involve any ground-disturbing activities. Therefore, effects on

cultural resources would be unlikely. Additionally, extensive monitoring and tracking before and during the operation provide accuracy in termination and landing and allow avoidance of sensitive areas.

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

Please accept this correspondence a as per the National Historic Preservation Act (NHPA), as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. In accordance with the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

Please let us know if there are areas of particular cultural concern that we should avoid and if there are any special access requirements needed to enter the tribal lands.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in the area to invite them to consult with us on this issue.

We look forward to working with you or your designated representative. Please provide input to Mr. Kent Friedrichsen at (505) 853-7926 or via email at kent.friedrichsen@kirtland.af.mil by February 12, 2010. If we do not hear from you by that time, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact Mr. Friedrichsen.

Sincerely,

KM Friedrichsen

K.M. Friedrichsen
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of the Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

Ivan L. Sydney Sr.
Hopi Tribal Council
PO Box 123
Kykotsmovi, AZ 86039

Dear Mr. Sydney:

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth).

The purpose of this letter is to coordinate and solicit input to identify sensitive resources that could potentially be affected by the Proposed Action. Additionally, AFRL/RV would like your input on property access requirements for balloon operation recovery of equipment on tribal lands.

The mission of the AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, and recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If winds, humidity, air quality, and temperature are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas. However, balloon operations are not expected to cause

any significant impacts on cultural resources. The proposed launches would primarily occur at established airfields and would not involve any ground-disturbing activities. Therefore, effects on cultural resources would be unlikely. Additionally, extensive monitoring and tracking before and during the operation provide accuracy in termination and landing and allow avoidance of sensitive areas.

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

Please accept this correspondence a as per the National Historic Preservation Act (NHPA), as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. In accordance with the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

Please let us know if there are areas of particular cultural concern that we should avoid and if there are any special access requirements needed to enter the tribal lands.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in the area to invite them to consult with us on this issue.

We look forward to working with you or your designated representative. Please provide input to Mr. Kent Friedrichsen at (505) 853-7926 or via email at kent.friedrichsen@kirtland.af.mil by February 12, 2010. If we do not hear from you by that time, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact Mr. Friedrichsen.

Sincerely,

K M Friedrichsen

K.M. Friedrichsen
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of the Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

Mr. Ramon Riley
White Mountain Apache Cultural Center
PO Box 507
Fort Apache, AZ 85926

Dear Mr. Riley:

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth).

The purpose of this letter is to coordinate and solicit input to identify sensitive resources that could potentially be affected by the Proposed Action. Additionally, AFRL/RV would like your input on property access requirements for balloon operation recovery of equipment on tribal lands.

The mission of the AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, and recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If winds, humidity, air quality, and temperature are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas. However, balloon operations are not expected to cause

any significant impacts on cultural resources. The proposed launches would primarily occur at established airfields and would not involve any ground-disturbing activities. Therefore, effects on cultural resources would be unlikely. Additionally, extensive monitoring and tracking before and during the operation provide accuracy in termination and landing and allow avoidance of sensitive areas.

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

Please accept this correspondence a as per the National Historic Preservation Act (NHPA), as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. In accordance with the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

Please let us know if there are areas of particular cultural concern that we should avoid and if there are any special access requirements needed to enter the tribal lands.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in the area to invite them to consult with us on this issue.

We look forward to working with you or your designated representative. Please provide input to Mr. Kent Friedrichsen at (505) 853-7926 or via email at kent.friedrichsen@kirtland.af.mil by February 12, 2010. If we do not hear from you by that time, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact Mr. Friedrichsen.

Sincerely,

KM Friedrichsen

K.M. Friedrichsen
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of the Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

Carmen Bradley
Kaibab Paiute Tribal Council
NC65, Box 2
Tribal Affairs Building
Fredonia, AZ 86022

Dear Ms. Bradley:

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth).

The purpose of this letter is to coordinate and solicit input to identify sensitive resources that could potentially be affected by the Proposed Action. Additionally, AFRL/RV would like your input on property access requirements for balloon operation recovery of equipment on tribal lands.

The mission of the AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, and recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If winds, humidity, air quality, and temperature are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas. However, balloon operations are not expected to cause

any significant impacts on cultural resources. The proposed launches would primarily occur at established airfields and would not involve any ground-disturbing activities. Therefore, effects on cultural resources would be unlikely. Additionally, extensive monitoring and tracking before and during the operation provide accuracy in termination and landing and allow avoidance of sensitive areas.

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

Please accept this correspondence a as per the National Historic Preservation Act (NHPA), as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. In accordance with the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

Please let us know if there are areas of particular cultural concern that we should avoid and if there are any special access requirements needed to enter the tribal lands.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in the area to invite them to consult with us on this issue.

We look forward to working with you or your designated representative. Please provide input to Mr. Kent Friedrichsen at (505) 853-7926 or via email at kent.friedrichsen@kirtland.af.mil by February 12, 2010. If we do not hear from you by that time, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact Mr. Friedrichsen.

Sincerely,

KM Friedrichsen

K.M. Friedrichsen
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of the Proposed Action

DEPARTMENT OF THE AIR FORCE

AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Los Alamos National Laboratory
Fred deSousa
Environmental Communication & Public Involvement
PO Box 1663
MS J591
Los Alamos, New Mexico 87545

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117

SUBJECT: Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico

1. The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) located at Kirtland Air Force Base is preparing an Environmental Assessment (EA) for conducting medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth). Flight operation equipment would include a 200 to 500 foot diameter balloon, gondola, parachute, termination system and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1-1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp and away from towns and cities. Landing and recovery sites would be planned for areas with existing unpaved roads, and to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water and other natural and cultural resources. The EA will evaluate potential environmental effects resulting from the Proposed Action and No Action Alternative. We anticipate a draft EA will be made available for public and agency comment in the spring of 2010.
2. The AFRL/RV is soliciting your input on sensitive resources, located within the counties shown on Figure 1 under your jurisdiction, potentially affected by the Proposed Action. Additionally, AFRL/RV is requesting information regarding requirements for property access for recovery of balloon equipment on lands under your control.
3. Our contractor for this project is CH2M HILL. We would appreciate your cooperation during data collection efforts. Please provide your responses to Ms. Lyna Black, Environmental Planner, CH2M HILL, at (530) 229-3295 or by email at lblack@ch2m.com by February 12, 2010.

KM Friedrichsen

K.M. Friedrichsen
Senior General Engineer
Space Vehicles Directorate

Appendix B3
Letters Sent August/September 2010

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

August 30, 2010

MEMORANDUM FOR U.S. FISH AND WILDLIFE SERVICE
ERIC HEIN
VIA EMAIL: ERIC_HEIN@FWS.GOV

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117

SUBJECT: Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico

Pursuant to Section 7 of the Endangered Species Act, we request the Fish and Wildlife Service's review and concurrence of the following project. The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) will be preparing an environmental assessment (EA) of potential impacts resulting from implementation of the Proposed Action. The assessment will be prepared in accordance with United States Air Force (USAF or Air Force) requirements under the National Environmental Policy Act of 1969 (NEPA) (42 United States Code [USC] Sections 4321–4370d), the Council on Environmental Quality (CEQ) NEPA-implementing regulations (Title 40 of the Code of Federal Regulations [CFR] Parts 1500–1508), USAF NEPA-implementing regulations (32 CFR 989), and Department of Defense (DoD) Instruction 4715.9 (Environmental Planning Analysis).

Proposed Action

AFRL/RV is proposing to conduct high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth). The mission of the AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, and recovery protocol.
Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Specific launch and landing locations would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites are shown in Figure 1 and will occur on existing airfields. Landing and recovery sites would be planned to avoid wilderness areas, national parks, threatened and endangered species critical habitat, populated areas, mountains, water, and other natural and cultural resources; these areas are included in the exclusion zone shown in Figure 2. AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites.

Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If conditions are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

Potential Effects

There is a minor potential hazard to organisms during balloon operations. A majority of each flight would occur at altitudes that do not support life; however, avian species as well as bats and insects could be encountered when the balloon is gaining or decreasing altitude during launch and landing. Additionally, terrestrial plants and animals could be encountered during the landing. The descent and landing site would be controlled to the maximum extent possible, and every effort would be made to avoid landing in a protected habitat. Recovery would occur shortly after impact, and the vehicles would remain on existing roadways to the greatest extent possible. Everything related to the balloon operation would be removed from the recovery site, and the site would be returned to its original condition by raking, reseeding, and replanting, as necessary.

The probability of affecting threatened or endangered species or their habitat is remote, given, (1) the infrequency of balloon operations (approximately 30 per year), (2) the slower speed of ascent and decent compared to most aircraft, and (3) the avoidance of USFWS recognized critical threatened and endangered species habitat.

Request for Concurrence and Input

We believe that the proposed action described above will have minimal to no effect on threatened and endangered species and should not require a formal Section 7 consultation. We request your concurrence or guidance on this matter. Our contractor for this project is CH2M HILL and will serve as our designated representative on this matter. The CH2M HILL point of contact is Ms. Lyna Black; she can be reached at (530) 229-3295 or lyna.black@ch2m.com.

Please contact myself or Ms. Black if you have any questions or concerns.

Sincerely

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Launch Sites
Figure 2: Landing Sites

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

September 2, 2010

MEMORANDUM FOR U.S. FEDERAL AVIATION ADMINISTRATION
RICH FITE
SPECIALIST, AIRSPACE AND PROCEDURES
ALBUQUERQUE ARTCC

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117

SUBJECT: Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico

1. The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) located at Kirtland Air Force Base is preparing an Environmental Assessment (EA) for conducting medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere. Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Specific launch and landing locations would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Potential launch sites are shown in Figure 1 and will occur on existing airfields. Potential landing and recovery sites are shown in Figure 2 would be planned for areas with existing unpaved roads and to avoid populated areas, mountains, water, and other natural and cultural resources.

2. AFRL personnel would coordinate all balloon operations with the FAA, and use the Notices to Airmen system to alert civilian and military aviators. Additionally, the balloon would be equipped with an FAA-approved transponder, and its location would be continually tracked using GPS. If a balloon trajectory should change unexpectedly, the FAA would be notified immediately. The balloon will also be equipped with reflective yarn which can be tracked with radar, if there ever was a complete GPS failure.

3. The EA will evaluate potential environmental effects resulting from the Proposed Action and No Action Alternative and will include a section covering airspace. We anticipate a draft EA will be made available for public and agency comment in October/November 2010. The AFRL/RV is soliciting your input on any concerns regarding this action. Our contractor for this

project is CH2M HILL and we would appreciate your cooperation during its data collection efforts.

4. Please contact Mr. Kent Friedrichsen at (505) 853-7926 or via e-mail at kent.friedrichsen@kirtland.af.mil with any questions or concerns.

K.M. Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Potential Launch Sites
Figure 2: Potential Landing Areas

Appendix B4
Letters Sent January 2011

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Historic Preservation Division
Department of Cultural Affairs
Jan V. Biella, RPA
407 Galisteo St., Suite 236
Santa Fe, NM 87501

JAN 2 0 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

The CRM, Ms. Valerie Renner, will be contacting your office to retrieve the historic properties geodatabase of site locations to avoid. We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Texas Historical Commission
Mark Wolfe
Executive Director and SHPO
P.O. Box 12276
Austin, TX 78701

JAN 2 0 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

The CRM, Ms. Valerie Renner, will be contacting your office to retrieve the historic properties geodatabase of site locations to avoid. We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Arizona SHPO
James Garrison
SHPO
1300 W. Washington Street
Phoenix, AZ 85007

JAN 2 0 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

The CRM, Ms. Valerie Renner, will be contacting your office to retrieve the historic properties geodatabase of site locations to avoid. We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Jicarilla Apache Nation
President Levi Pesata
P.O. Box 507
Dulce, NM 87528

JAN 2 0 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Mescalero Apache Tribe
President Mark Chino
P.O. Box 227
Mescalero, NM 88340

JAN 2 0 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Navajo Nation
President Ben Shelly
P.O. Box 9000
Window Rock, AZ 86515

JAN 2 0 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KM Friedrichsen
KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Navajo Nation Council
Speaker Lawrence T. Morgan
P.O. Box 3390
Window Rock, AZ 86515

JAN 2 0 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Ohkay Owingeh
Governor Ron Lovato
P.O. Box 1099
San Juan Pueblo, NM 87566

JAN 2 0 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Pueblo of Acoma
Governor Randall Vicente
P.O. Box 309
Acoma, NM 87034

JAN 2 0 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Pueblo of Cochiti
Governor Robert Pecos
P.O. Box 70
Cochiti Pueblo, NM 87072

JAN 2 0 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Pueblo of Isleta
Governor Frank Lujan
P.O. Box 1270
Isleta Pueblo, NM 87022

JAN 2 0 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Pueblo of Jemez
Governor Michael Toledo
P.O. Box 100
Jemez Pueblo, NM 87024

JAN 2 0 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Pueblo of Laguna
Governor Richard Luarkie
P.O. Box 194
Laguna Pueblo, NM 87026

JAN 2 0 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Pueblo of Nambe
Governor Ernest Mirabal
Route 1, Box 117-BB
Santa Fe, NM 87506

JAN 2 0 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Pueblo of Picuris
Governor Gerald Nailor
P.O. Box 127
Penasco, NM 87553

JAN 2 0 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Pueblo of Pojoaque
Governor George Rivera
78 Cities of Gold Road
Santa Fe, NM 87506

JAN 2 0 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Pueblo of Sandia
Governor Malcolm Montoya
481 Sandia Loop
Bernalillo, NM 87004

JAN 2 0 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Pueblo of Santa Ana
Governor Lawrence Montoya
2 Dove Road
Santa Ana Pueblo, NM 87004

JAN 2 0 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KM Friedrichsen
KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Pueblo of Santa Clara
Governor Walter Dasheno
P.O. Box 580
Espanola, NM 87532

JAN 2 0 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Pueblo of San Felipe
Governor Raymond Sandoval
P.O. Box 4339
San Felipe Pueblo, NM 87001

JAN 2 0 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Pueblo of San Ildefonso
Governor Perry Martinez
Route 5, Box 315A
Santa Fe, NM 87506

JAN 2 0 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Kewa Pueblo
Governor David F. Garcia
P.O. Box 99
Santo Domingo Pueblo, NM 87052

JAN 2 0 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Pueblo of Taos
Governor Nelson J. Cordova
P.O. Box 1846
Taos, NM 87571

JAN 2 0 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Pueblo of Tesuque
Governor Mark Mitchell
Route 42, Box 360-T
Santa Fe, NM 87506

JAN 2 0 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Pueblo of Zia
Governor Marcellus Medina
135 Capitol Square Drive
Zia Pueblo, NM 87053-6013

JAN 2 0 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

Kent Friedrichsen
KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Pueblo of Zuni
Governor Arlan P. Quetawki Sr.
P.O. Box 339
Zuni, NM 87327

JAN 2 0 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Ramon Riley
White Mountain Apache Cultural Center
P.O. Box 507
Fort Apache, AZ 85926

JAN 2 5 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

K M Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

DEPARTMENT OF THE AIR FORCE

AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Lucille Campa
Las Vegas Paiute Tribal Council
One Paiute Drive
Las Vegas, NV 89106

JAN 2 5 2011

FROM: AFRL/RVOl
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

DEPARTMENT OF THE AIR FORCE

AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: William Anderson
Moapa Band of Paiutes Business Council
1 Lincoln St.
P.O. Box 340
Moapa, NV 89025

JAN 2 5 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

DEPARTMENT OF THE AIR FORCE

AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Jeanine Borchardt
Paiute Indian Tribe of Utah Tribal Council
440 N. Paiute Drive
Cedar City, UT 84721

JAN 2 5 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Terry Rambler
San Carlos Apache Tribal Council
P.O. Box 0
San Carlos, AZ 85550

JAN 2 5 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

DEPARTMENT OF THE AIR FORCE

AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Leroy Ned Shingoitewa
Hopi Tribal Council
P.O. Box 123
Kykotsmovi, AZ 86039

JAN 2 5 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Timothy L. Rogers
Kaibab Paiute Tribal Council
NC 65, Box 2
Tribal Affairs Building
Fredonia, AZ 86022

JAN 2 5 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Navajo Nation Council
Speaker Lawrence T. Morgan
P.O. Box 3390
Window Rock, AZ 86515

JAN 2 0 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

Standard Operating Procedures for Protection of Historic Properties
Specific for the Balloon Launch and Landing Events,
Air Force Research Laboratory High-Altitude Balloon Program

The Cultural Resources Manager (CRM) at Kirtland Air Force Base (AFB) will obtain, prior to project implementation, geodatabases providing location information of Historic Properties situated within the general Area of Potential Effect (APE) of the Air Force Research Laboratory (AFRL) High-Altitude Balloon Program. The general APE encompasses specific counties within the states of New Mexico, Arizona, and Texas (see attached map for counties). Sub-APEs (SAPEs) will be defined by county for each specific landing/recovery event. Historic Properties are defined as any prehistoric or historic district, archaeological site, building, structure, or object that is included in—or eligible for inclusion in—the National Register of Historic Places (36 CFR § 800). The geodatabases will be obtained from sources such as State Historic Preservation Offices (SHPOs) and/or state archaeologists, tribal historic preservation officers (THPOs), and federal or state agencies managing lands within the APE.

Additionally, the CRM will provide training for the balloon technicians regarding the identification and avoidance of Historic Properties not listed on the geodatabases. The CRM will train the balloon technicians to identify Historic Property types common to the general APE. This training will help to minimize possible impacts to unidentified Historic Properties (i.e. inadvertent discoveries) during balloon recovery activities.

Pre-Flight Preparation

Prior to a specific balloon launch event, the balloon technicians will contact the Kirtland AFB CRM with a list of state counties in which the balloon could land. The CRM will examine those specific counties (constituting the SAPE locations) in the appropriate geodatabases in order to determine the presence or absence of identified Historic Properties. The CRM will notify the balloon technicians regarding the results of the geodatabase searches.

a. If no identified Historic Properties are located within the potential landing/recovery SAPEs, the balloon drop will be determined a "no adverse effect" action regarding Historic Properties.

b. If there are identified Historic Properties located within the potential landing/recovery SAPEs, the balloon technicians will plan to avoid landing the balloon within a one-mile radius of any identified Historic Property. Such avoidance is feasible because the balloon's remote command systems provide position tracking, reporting, and visibility during the balloon flight. A balloon drop located outside a one-mile radius of any identified Historic Property will also result in a determination of "no adverse effect."

c. An unplanned landing—caused by an unforeseen event or circumstance—*within* a one-mile radius of an identified Historic Property will result in either a "no adverse effect" determination (if no damage has occurred), or an "adverse effect" determination (if damage to the Historic Property has occurred). See the Balloon Landing/Recovery section below for further discussion.

Balloon Launch

Balloons will be launched from established runways at military airfields and municipal airports within the general APE of the project. Therefore no Historic Properties will be present at the launch sites, and the balloon launches will be determined "no adverse effect" actions. Per 36CFR§800.4(d)(1), documentation of this finding of "no adverse effect" concerning balloon launches (letters dated 20 January 2011) has been presented to the applicable SHPO(s)/THPO(s).

Balloon Landing/Recovery

When an AFRL High-Altitude balloon lands, the balloon technicians will notify the land owner/manager (i.e. private land owners, SHPOs, federal and state land managers) and invite the person(s) to inspect the landing/recovery location. Because balloon landings generally occur at night, the technicians typically will contact the appropriate person(s) the next day following balloon recovery activities. If however, the landing occurs during the day or at a reasonable time in the evening, the technicians will notify the land owner/manager and invite them to the balloon recovery activities.

a) In the event that a balloon lands on tribal property, the balloon technicians must first contact the tribal security and/or the THPO to inform the tribe. Second the balloon technicians must be escorted by tribal security and/or the THPO during balloon retrieval activities.

If a balloon inadvertently lands within one mile of an identified Historic Property, the balloon technicians will notify the CRM at Kirtland AFB and the land owner/manager. If the CRM and the land owner/manager determine that damage has occurred to the Historic Property, a qualified archaeologist representing the USAF will be hired to develop a Memorandum of Agreement (MOA) and mitigation plan with SHPO/THPO approval within a timeline suitable to all parties involved. The mitigation plan will be implemented to satisfy the National Historic Preservation Act (NHPA) of 1966, as amended.

If the balloon technicians and/or land owner/manager believe they have identified a previously undocumented Historic Property either (1) in transit to recover the balloon or (2) at the landing/recovery point, the balloon technicians will notify the CRM at Kirtland AFB. The CRM will then coordinate with the land owner/manager regarding the inspection of the SAPE in order to determine if there is in fact a newly identified Historic Property. If a newly identified Historic Property has been discovered, the Kirtland CRM will consult with the land owner/manager regarding documentation of the resource in accordance with state and federal regulations.

If the CRM and the land owner/manager determine that damage has occurred to a Historic Property, a qualified archaeologist representing the USAF will be hired to develop a Memorandum of Agreement (MOA) and mitigation plan with SHPO/THPO approval within a timeline suitable to all parties involved. The mitigation plan will be implemented to satisfy the National Historic Preservation Act (NHPA) of 1966, as amended.

Year-end Summary

The applicable SHPOs/THPOs, federal and state land managers, and private land owners will receive annual reports, generated by the Kirtland CRM and the balloon technicians, regarding the activities of the AFRL High-Altitude Balloon Program. Each report recipient will be given project information specific to the land under their jurisdiction.

Appendix B5
Responses Received

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

91462

MEMORANDUM FOR: Historic Preservation Division
Department of Cultural Affairs
Jan V. Biella, RPA
407 Galisteo St., Suite 236
Santa Fe, NM 87501

JAN 2 0 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

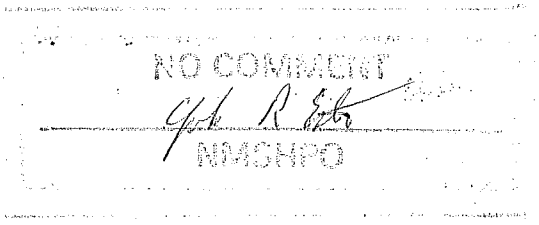
Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

The CRM, Ms. Valerie Renner, will be contacting your office to retrieve the historic properties geodatabase of site locations to avoid. We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project



PUEBLO OF LAGUNA
P.O. BOX 194
LAGUNA, NEW MEXICO 87026

(505) 552-6598
(505) 552-6654
(505) 552-6655

Office of:
The Governor
The Secretary
The Treasurer

February 14, 2011

Mr. Kent M. Friedrichsen
Senior General Engineer
Space Vehicles Directorate
AFRL/RVOI
3550 Aberdeen Avenue SE
Bldg 462
Kirtland AFB, New Mexico 87117-5776

Dear Mr. Friedrichsen:

RE: Balloon Launch and Landing Operations Project, Air Force Research Laboratory.
Kirtland Air Force Base, New Mexico

The Pueblo of Laguna appreciates your consideration to comment on the possible interests your projects may have on any traditional or cultural properties.

The Pueblo of Laguna has determined that the undertaking WILL NOT have a significant impact at this time. However, in the event that any new archaeological sites are discovered and any new artifacts are removed, we request to be notified to review items. We also request photographs of items. According to our unpublished migration history, our ancestors journeyed from the north through that area and settled for periods of time before traveling to our present location. Therefore, the possibilities of some findings may exist.

We thank you and your staff for the information provided.

Sincerely,

for Richard B. Luarkie
Governor
Pueblo of Laguna

PUEBLO OF LAGUNA
P.O. Box 194
LAGUNA, NEW MEXICO 87026

Office of:
The Governor
The Secretary
The Treasurer

(505)552-6654
FAX: (505)552-6941

July 7, 2010

Mr. Kent M. Friedrichsen
Senior General Engineer
Space Vehicles Directorate
AFRL/VOI
3550 Aberdeen Ave., S.E., Bldg. 462
Kirtland AFB, New Mexico 87117-5776

Dear Mr. Friedrichsen:

I am in receipt of your recent letter informing me of the United States Air Force Research Laboratory's proposal to conduct medium-to-high altitude balloon flights in Arizona, New Mexico and Texas. You also indicated that the purpose of the letter was to coordinate and solicit input to identify sensitive resources that could potentially be affected by the Proposed Action, and this was in relation to the "areas of potential effects (APE)" for balloon launches and landing sites. I would propose that you and any other individuals from your department come and make a formal presentation before our Staff Officers and then to the full Pueblo Council on the propose project. You can contact my Executive Assistant, Frank Cerno, and suggest some dates and times when you will be available.

If you have any questions, please do not hesitate to contact my office. Thank you for your attention to this matter.

Sincerely,

PUEBLO OF LAGUNA

John E. Antonio Sr.
Governor

(File No. 1209-047257)

PUEBLO OF ISLETA
GOVERNOR'S OFFICE
P.O. BOX 1270, ISLETA, NM 87022

PHONE: 505-869-3111
FAX: 505-869-4236

April 5, 2011

Department of The Air Force
AFRL/RVOI
Kent M. Friedrichsen
3550 Aberdeen Ave SE Bldg. 462
Kirtland AFB, NM 87117-5776

Dear Mr. Friedrichsen:

This letter is in response to your letter regarding the proposed cultural resource considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, NM . I am pleased to inform you that this project will not have an impact on religious or cultural sites affiliated with the Pueblo of Isleta.

However, in the event that discoveries are found during construction, we would appreciate being advised of such findings. Please forward all environmental assessment plans to our office.

Thank you for your consideration in contacting this office to express our concerns.

Sincerely,

PUEBLO OF ISLETA

Frank Lujan,
Governor

cc: files

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

Forward to CPO

RECEIVED
FEB 08 2010
TRIBAL GOVERNMENT
THE HOPI TRIBE

RECEIVED
FEB 11 2010
BY: OPO/KS

AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

Ivan L. Sydney Sr.
Hopi Tribal Council
PO Box 123
Kykotsmovi, AZ 86039

Dear Mr. Sydney:

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth).

The purpose of this letter is to coordinate and solicit input to identify sensitive resources that could potentially be affected by the Proposed Action. Additionally, AFRL/RV would like your input on property access requirements for balloon operation recovery of equipment on tribal lands.

The mission of the AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, and recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If winds, humidity, air quality, and temperature are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas. However, balloon operations are not expected to cause

any significant impacts on cultural resources. The proposed launches would primarily occur at established airfields and would not involve any ground-disturbing activities. Therefore, effects on cultural resources would be unlikely. Additionally, extensive monitoring and tracking before and during the operation provide accuracy in termination and landing and allow avoidance of sensitive areas.

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

Please accept this correspondence a as per the National Historic Preservation Act (NHPA), as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. In accordance with the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

Please let us know if there are areas of particular cultural concern that we should avoid and if there are any special access requirements needed to enter the tribal lands.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in the area to invite them to consult with us on this issue.

We look forward to working with you or your designated representative. Please provide input to Mr. Kent Friedrichsen at (505) 853-7926 or via email at kent.friedrichsen@kirtland.af.mil by February 12, 2010. If we do not hear from you by that time, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact Mr. Friedrichsen.

Sincerely,

KM Friedrichsen

K.M. Friedrichsen
Senior General Engineer
Space Vehicles Directorate

concur- that recommendation for a finding of no historic properties affected is appropriate for this undertaking.

for Kuwanwisiwma

2-16-10

Enclosures: Figure 1: Location of the Proposed Action

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Leroy Ned Shingoitewa
Hopi Tribal Council
P.O. Box 123
Kykotsmovi, AZ 86039

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

Concur-
Margaret Kuwanwisiwma
2-16-11

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New Mexico Ecological Services Field Office
2105 Osuna NE
Albuquerque, New Mexico 87113
Phone: (505) 346-2525 Fax: (505) 346-2542

January 12, 2010

Cons. # 22420-2010-TA-0026

Kent M. Friedrichsen
Department of the Air Force
Air Force Research Laboratory
3550 Aberdeen Avenue SE, Bldg 462
Kirtland AFB, NM 87117

Dear Mr. Friedrichsen:

Thank you for your recent request for information on threatened or endangered species or important wildlife habitats that may occur in your project area. The New Mexico Ecological Services Field Office has posted lists of the endangered, threatened, proposed, candidate and species of concern occurring in all New Mexico counties on the internet. Please refer to the following web page for species information in the county where your project occurs: http://www.fws.gov/southwest/es/newmexico/SBC_intro.cf. If you do not have access to the Internet or have difficulty obtaining a list, please contact our office and we will mail or fax you a list as soon as possible.

After opening the web page, find New Mexico Listed and Sensitive Species Lists on the main page and click on the county of interest. Your project area may not necessarily include all or any of these species. This information should assist you in determining which species may or may not occur within your project area.

Under the Endangered Species Act, as amended (Act), it is the responsibility of the Federal action agency or its designated representative to determine if a proposed action "may affect" endangered, threatened, or proposed species, or designated critical habitat, and if so, to consult with us further. Similarly, it is their responsibility to determine if a proposed action has no effect to endangered, threatened, or proposed species, or designated critical habitat. If your action area has suitable habitat for any of these species, we recommend that species-specific surveys be conducted during the flowering season for plants and at the appropriate time for wildlife to evaluate any possible project-related impacts. Please keep in mind that the scope of federally listed species compliance also includes any interrelated or interdependent project activities (e.g., equipment staging areas, offsite borrow material areas, or utility relocations) and any indirect or cumulative effects.

Candidates and species of concern have no legal protection under the Act and are included on the web site for planning purposes only. We monitor the status of these species. If significant declines are detected, these species could potentially be listed as endangered or threatened. Therefore, actions that may contribute to their decline should be avoided. We recommend that candidates and species of concern be included in your surveys.

Also on the web site, we have included additional wildlife-related information that should be considered if your project is a specific type. These include communication towers, power line safety for raptors, road and highway improvements and/or construction, spring developments and livestock watering facilities, wastewater facilities, and trenching operations.

Under Executive Orders 11988 and 11990, Federal agencies are required to minimize the destruction, loss, or degradation of wetlands and floodplains, and preserve and enhance their natural and beneficial values. We recommend you contact the U.S. Army Corps of Engineers for permitting requirements under section 404 of the Clean Water Act if your proposed action could impact floodplains or wetlands. These habitats should be conserved through avoidance, or mitigated to ensure no net loss of wetlands function and value.

The Migratory Bird Treaty Act (MBTA) prohibits the taking of migratory birds, nests, and eggs, except as permitted by the U.S. Fish and Wildlife Service. To minimize the likelihood of adverse impacts to all birds protected under the MBTA, we recommend construction activities occur outside the general migratory bird nesting season of March through August, or that areas proposed for construction during the nesting season be surveyed, and when occupied, avoided until nesting is complete.

We suggest you contact the New Mexico Department of Game and Fish, and the New Mexico Energy, Minerals, and Natural Resources Department, Forestry Division for information regarding fish, wildlife, and plants of State concern.

Thank you for your concern for endangered and threatened species and New Mexico's wildlife habitats. In future correspondence regarding this project, please refer to consultation # 22420-2010-TA-0026. We appreciate your efforts to identify and avoid impacts to listed and sensitive species in your project area.

Sincerely,

Wally Murphy
Field Supervisor

cc: Lynda Black, Environmental Planner, CH2M HILL

From: Eric_Hein@fws.gov [mailto:Eric_Hein@fws.gov]
Sent: Monday, September 13, 2010 11:02 AM
To: Rau, Michelle/COS
Subject: Re: AFRL EA Section 7 consultation

Hi Michelle:

Thank you for requesting our review of your proposed project in New Mexico. It is unclear from your request whether you have determined the proposed action "may affect" or have "no effect" on threatened and endangered species in New Mexico. I have attached a species list letter for your review; however, we currently have no comments on your proposed project. Under the Endangered Species Act, as amended, it is the responsibility of the Federal action agency or its designated representative to determine if a proposed action "may affect" endangered, threatened, or proposed species, or designated critical habitat, and if so, to consult with the U. S. Fish and Wildlife Service (Service) further. Similarly, it is the responsibility of the action agency or project proponent, not the Service, to make “no effect” determinations. If you determine the proposed action will have "no effect", then no consultation is necessary.

We appreciate your concern for endangered and threatened species and New Mexico’s wildlife habitats.

Thank you.

Eric

Eric W. Hein
U.S. Fish and Wildlife Service
2105 Osuna NE
Albuquerque, New Mexico 87113
505-761-4735; 346-2542 (fax)

<Michelle.Rau@CH2M.com>

09/13/2010 09:41 AM

To <eric_hein@fws.gov>
cc <Lyna.Black@CH2M.com>
Subject AFRL EA Section 7 consultation

Dear Mr. Hein,
I left you a voice mail concerning this issue. The Air Force Research Laboratory (AFRL) is in the process of preparing an Environmental Assessment for research balloon launch and landings throughout New Mexico and parts of Arizona and Texas. Because there are documented T&E species within the Project Area, we would like to initiate an informal Section 7 consultation. Please see the attached letter and maps for further detail. If you have any questions please do not hesitate to contact us.

Michelle Rau
CH2M Hill

Environmental Services
Associate Planner
P:719-477-4912
C:719-331-5699

From: Aletta.Salganek@faa.gov [mailto:Aletta.Salganek@faa.gov]
Sent: Tuesday, September 14, 2010 10:13 AM
To: Black, Lyna/RDD
Subject: RE: AFRL Balloon Launch and Landing EA

Ms. Black,

Following a review of the package with our Airspace and Procedures Manager, we had no questions or issues at this time. We look forward to working with you as the project evolves.

Aletta Salganek
Airspace and Procedures
Albuquerque ARTCC
505-856-4531/ 505-856-4239 FAX

Aletta.Salganek@faa.gov

<Lyna.Black@CH2M.com>

09/08/2010 06:57 AM

To Aletta Salganek/ASW/FAA@FAA
cc
Subject RE: AFRL Balloon Launch and Landing EA

Ms. Salganek,
Thank you for the confirmation.

Lyna

Lyna R. Black
Associate Planner
CH2M HILL
2525 Airpark Drive
Redding, CA 96001
P: 530.229.3295
F: 530.339.3243
lblack@ch2m.com

From: Aletta.Salganek@faa.gov [mailto:Aletta.Salganek@faa.gov]
Sent: Tuesday, September 07, 2010 1:05 PM

To: Black, Lyna/RDD
Subject: Re: AFRL Balloon Launch and Landing EA

Ms. Black -

I just wanted to send a short note of acknowlegement to inform you that your letter and attachments arrived. I will look the package over and forward our input.

Thank you,

Aletta Salganek
Airspace and Procedures
Albuquerque ARTCC
505-856-4531

<Lyna.Black@CH2M.com>

09/07/2010 01:23 PM

To Aletta Salganek/ASW/FAA@FAA
cc <Kent.Friedrichsen@kirtland.af.mil>, <Karen.Jarocki@CH2M.com>
Subject AFRL Balloon Launch and Landing EA

Dear Ms. Salganek,
As we discussed this morning, the attached is in regards to the preparation of an environmental document for proposed balloon operations by AFRL.
If you have any questions please do not hesitate to contact us.
Thank you,
Lyna Black

Lyna R. Black
Associate Planner
CH2M HILL
2525 Airpark Drive
Redding, CA 96001
P: 530.229.3295
F: 530.339.3243
lblack@ch2m.com

Rau, Michelle/COS

From: Mark_Spencer@blm.gov
Sent: Tuesday, January 19, 2010 3:55 PM
To: Rau, Michelle/COS
Cc: Megan_Stouffer@blm.gov
Subject: Environmental Asessment - Ballon Launch/Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base

Thank you for providing BLM New Mexico the opportunity to comment on the preparation of the Environmental Assessment (EA) for the above proposed project. In your letter addressed to the BLM NM State Office, you requested our input on sensitive resources, located within the counties shown on the attached map that could be potentially affected by the Proposed Action. The small scale map indicated that approximately 70% of New Mexico, including BLM lands, may include possible balloon launch/landing sites.

For the Air Force's 30 proposed balloon operations a year, it is not feasible or practical for the BLM New Mexico (NM) to provide you with a comprehensive list of our sensitive resources. BLM NM manages over 13 million acres of public land. Sensitive resources on BLM managed lands include, but are not limited to specially designated areas through legislation and the BLM land use planning process. Examples of these areas that would prohibit or restrict motorized entry for AFRL/RV balloon operations include for example, wilderness and wilderness study areas, land units belonging to the National Landscape Conservation System (e.g. National Monuments and National Conservation Areas), Areas of Critical Environmental Concern, and Special Recreation Management Areas. In addition, there are other areas on BLM public lands that would not be suitable for balloon launching/landing operations such as areas with oil and gas development and utility rights-of way.

In light of these reasons, we recommend that you place the above language in your EA when addressing potential balloon operations on BLM managed public lands. In addition, the EA should state that prior to initiating balloon operations on BLM managed lands, AFRL/RV would contact the affected BLM New Mexico District Office for the appropriate permission to proceed with the operations, as well as identify acceptable launching/landing sites. These proposals may also require further environmental analysis on a case by case basis by the BLM as required by NEPA.

If you have additional questions, please don't hesitate to contact me.

Mark R. Spencer, AICP
State Planning & Env. Coord.
BLM, New Mexico State Office
Division of Resources
301 Dinosaur Trail
Santa Fe, NM 87508
Office: (505) 954-2180
Mobile: (505) 660-7495

Record of Conversation

Date: 1/19/2010

Call to: Michelle Rau, CH2M HILL/ COS 719-477-4912

Call from: Mark Spencer, New Mexico BLM Environmental Planner 505-954-2169

Re: AFRL Balloon Launch EA agency letter

Mark explained the main concerns would be balloon landings in Wilderness areas or Areas of Critical Environmental concerns (ACECs) in which motorized vehicles are not permitted.

He also stated Kirtland personnel will need to coordinate with the relevant BLM Field Office prior to operations on BLM land.

He requested to receive a copy of the draft EA.

He should be sending an e-mail with these concerns written out.

United States Department of the Interior
BUREAU OF LAND MANAGEMENT
Safford Field Office
711 14th Avenue
Safford, Arizona 85546
928-348-4400
www.blm.gov/az

TAKE PRIDE IN AMERICA

In Reply Refer To:
1430 (LLAZG010000)

January 13, 2010

CERTIFIED MAIL NO. 7008 1140 0002 4434 8260
RETURN RECEIPT REQUESTED

Lyna Black
CH2M HILL
4041 Jefferson Plaza NE
Ste 200
Albuquerque, NM 87109

Dear Ms. Black:

This letter is in response to your memorandum received in our office on December 29, 2009 regarding balloon launching Operations in Navajo and Apache Counties. Your memo requested input on sensitive resources, located within those counties, attached you will find the following:

- A map depicting the Tanner Wash ACEC (Area of Critical Environmental Concern). The habitat within this ACEC supports a federally listed endangered plant and good portion of the ACEC is closed to motorized vehicles.

- A list of species most commonly found in Navajo and Apache Counties.

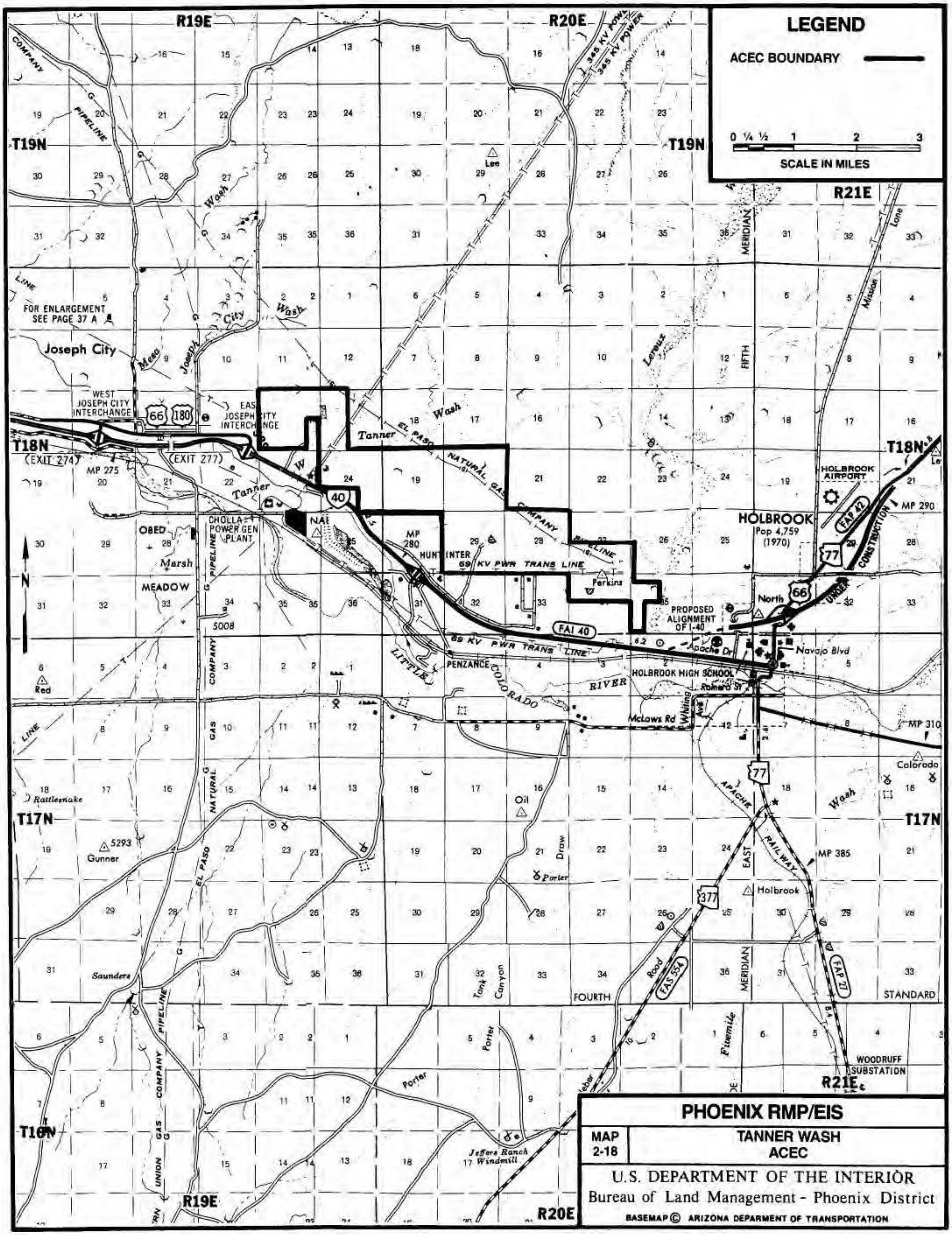
To keep surface disturbance to a minimum, we would ask that all travel for launching and retrieving take place on existing roadways. Access in both of the counties can be limited, as public lands (BLM) are often landlocked by private and State Trust Lands.

When specific locations are determined, please contact the BLM for site specific information regarding resource concerns. We look forward to receiving the Environmental Assessment and the opportunity to comment further. If you have any questions, please feel free to contact Roberta Lopez, Realty Specialist at (928) 348-4437.

Sincerely,

Thomas J. Schnell
Assistant Field Office Manager
For Non-Renewable Resources

2 Enclosures



PHOENIX RMP/EIS

MAP 2-18

TANNER WASH ACEC

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management - Phoenix District

BASEMAP © ARIZONA DEPARMENT OF TRANSPORTATION

Navajo County

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Apache (Arizona) trout	*Oncorhynchus gilae apache*	Threatened	Yellowish to yellow-olive cutthroat-like trout with large dark spots on body. Dorsal, anal, and caudal fins edged with white. No red lateral band.	Apache, Coconino, Gila, Graham, Greenlee, Navajo	> 5,000 ft	Streams and rivers generally above 6,000 ft. elevation with adequate stream flow and shading; temperatures below 77 degrees F; and substrate composed of boulders, rocks, gravel and some sand and silt.	Presently restricted to drainages in the White Mountains. Hybridization with introduced trout has complicated efforts to maintain the genetic purity of some populations. Special regulations (4d Rule) allow Arizona to manage species as a sport fish.
Black-footed ferret	*Mustela nigripes*	Endangered	Weasel-like, yellow buff coloration with black on feet, tail tip, and eye mask. It has a blunt light colored nose and is 15-18 inches long and tail length is 5-6 inches.	Apache, Coconino, Navajo, Yavapai	< 10,500	Grassland plains generally found in association with prairie dogs.	Unsurveyed prairie dog towns may be occupied by ferrets or may be appropriate for future reintroduction efforts. The Service developed guidelines for surveying prairie dog towns which are available upon request. No wild populations of this species are currently known to exist in Arizona. Reintroduced population exists in Aubrey Valley (Coconino County), Arizona.
California condor	*Gymnogyps californianus*	Endangered	Very large vulture (47 in., wingspan to 9 1/2 ft, weight to 22 lbs); adult plumage blackish, immature more brownish; adult wing linings white, immature mottled; head and upper parts of neck bare; yellow-orange in adults, grayish in mature.	Apache, Coconino, Mohave, Navajo, Yavapai	Varies	High desert canyons and plateaus.	Recovery program has reintroduced condors to Northern Arizona, with the first release (6 birds) in December 1996. The release site is located at the Vermilion Cliffs (Coconino County), with an experimental/nonessential area designated for most of Northern Arizona and Southern Utah. The area in Arizona is within a polygon formed by Hwy 191, Interstate 40, and Hwy 93, and extends north of the Arizona-Utah and Nevada borders. Breeding is documented in Arizona.

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Chiricahua leopard frog	*Lithobates [Rana] chiricahuensis*	Threatened	Cream colored tubercles (spots) on a dark background on the rear of the thigh, dorsolateral folds that are interrupted and deflected medially, and a call given out of water distinguish this spotted frog from other leopard frogs.	Apache, Cochise, Coconino, Gila, Graham, Greenlee, Navajo, Pima, Santa Cruz, Yavapai	3,300-8,900 ft	Streams, rivers, backwaters, ponds, and stock tanks that are mostly free from introduced fish, crayfish, and bullfrogs.	Require permanent or nearly permanent water sources. Populations north of the Gila River may be a closely-related, but distinct, undescribed species. A special rule allows take of frogs due to operation and maintenance of livestock tanks on State and private lands.
Little Colorado spinedace	*Lepidomeda vittata*	Threatened	Small (<4 inches long) silvery minnow.	Apache, Coconino, Navajo	4,000-8,000 ft	Moderate to small streams; found in pools and riffles with water flowing over fine gravel and silt substrate.	Critical habitat includes eighteen miles of East Clear Creek, eight miles of Chevelon Creek, and five miles of Nutrioso Creek.
Loach minnow	*Tiaroga cobitis*	Threatened	Small (<3 inches) slender, elongated fish, olive colored with dirty white spots at the base of the dorsal and caudal fins. Breeding males vivid red on mouth and base of fins.	Apache, Cochise, Gila, Graham, Greenlee, Navajo, Pinal	< 8,000 ft	Benthic species of small to large perennial streams with swift shallow water over cobble and gravel. Recurrent flooding and natural hydrograph important.	Presently found in Aravaipa Creek, Deer Creek, Turkey Creek, Blue River, Campbell Blue Creek, San Francisco River, Eagle Creek, North Fork of the East Fork Black River, and White River in Arizona, and Dry Blue Creek, Pace Creek, Frieborn Creek, the Tularosa River, West Fork Gila River, and the mainstem upper Gila River in New Mexico. Populations have been recently reintroduced in Hot Springs and Redfield canyons in Cochise and Graham counties; Fossil Creek in Gila County; and Bonita Creek in Graham County Arizona. Critical habitat (72 FR 13356-13422, March 21, 2007) found in Apache, Graham, Greenlee, and Pinal counties, Arizona, as well as portions of the Blue River, San Francisco River, Tularosa River, Negrito Creek, Pace Creek, Dry Blue Creek, Frieborn Creek, Whitewater Creek, Gila River, and its West, Middle, and East Forks in Catron, Grant, and Hidalgo counties in New Mexico.

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Mexican gray wolf	*Canis lupus baileyi*	Endangered	Large dog-like carnivore. Head and feet are large in proportion to rest of body. Coat color varies with mix of brown, rust, black, gray, and white. Distinct white lip line around mouth. Adults weigh between 60-90 pounds.	Apache, Gila, Greenlee, Navajo	4,000-12,000 ft	Chaparral, woodland, and forested areas. May cross desert areas.	In March 1998, Mexican gray wolves were reintroduced as an experimental nonessential (10j) population under a program to re-establish the subspecies to a portion of its historical range. Wolves are released within the experimental boundary into a designated area known as the "Blue Range Wolf Recovery Area" (BRWRA) located in the Apache National Forest in Greenlee and Apache counties. Mexican gray wolves found outside of the experimental nonessential boundary are considered endangered. In 2002, the White Mountain Apache tribe (WMAT) became one of the lead agencies for the reintroduction and allowed wolves on their lands. This effectively expanded the experimental nonessential population into Navajo, Apache, and Gila counties on WMAT lands.
Mexican spotted owl	*Strix occidentalis lucida*	Threatened	Medium sized with dark eyes and no ear tufts. Brownish and heavily spotted with white or beige.	Apache, Cochise, Coconino, Gila, Graham, Greenlee, Maricopa, Mohave, Navajo, Pima, Pinal, Santa Cruz, Yavapai	4,100-9,000 ft	Nests in canyons and dense forests with multi-layered foliage structure.	Generally nest in older forests of mixed conifer or ponderosa pine/gambel oak type, in canyons, and use variety of habitats for foraging. Sites with cool microclimates appear to be of importance or are preferred. Critical habitat was finalized on August 31, 2004 (69 FR 53182) in Arizona in Apache, Cochise, Coconino, Gila, Graham, Greenlee, Maricopa, Navajo, Pima, Pinal, Santa Cruz, and Yavapai counties.
Navajo sedge	*Carex specuicola*	Threatened	Perennial forb with triangular stems, elongated rhizomes. Flower: white June and July.	Apache, Coconino, Navajo	5,700-6,000 ft	Silty soils at shady seeps and springs.	Designated critical habitat is on the Navajo Nation near Inscription House Ruins. Found at seep springs on vertical cliffs of pink-red Navajo sandstone.
Peebles Navajo cactus	*Pediocactus peeblesianus var. peeblesianus*	Endangered	Very small globose 1 inch tall and about 0.75 inch in diameter. The 4 (3-5) radial spines are arranged in a twisted cross and central spines are absent. Flowers yellow-green 1 inch diameter spring.	Navajo	5,400-5,600 ft	Gravely soils of the Shinarump conglomerate of the Chinle Formation.	Extremely limited geographic range. Difficult to grow in cultivation.

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Southwestern willow flycatcher	*Empidonax traillii extimus*	Endangered	Small passerine (about 6 inches) grayish-green back and wings, whitish throat, light olive-gray breast and pale yellowish belly. Two wingbars visible. Eye-ring faint or absent.	Apache, Cochise, Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Navajo, Pima, Pinal, Santa Cruz, Yavapai, Yuma	< 8,500 ft	Cottonwood/willow and tamarisk vegetation communities along rivers and streams.	Migratory riparian-obligate species that occupies breeding habitat from late April to September. Distribution within its range is restricted to riparian corridors. Difficult to distinguish from other members of the Empidonax complex by sight alone. Training seminar required for those conducting flycatcher surveys. Critical habitat was finalized on October 19, 2005 (50 CFR 60886). In Arizona there are critical habitat segments in Apache, Cochise, Gila, Graham, Greenlee, Maricopa, Mohave, Pima, Pinal, and Yavapai counties.
Northern Mexican Gartersnake	*Thamnophis eques megalops*	Candidate	Background color ranges from olive, olive-brown, to olive-gray. Body has three yellow or light colored stripes running down the length of the body, darker towards tail. Species distinguished from other native gartersnakes by the lateral stripes reaching the 3rd and 4th scale rows. Paired black spots extend along dorsolateral fields.	Apache, Cochise,Coconino , Gila, Graham, Navajo, Pima, Pinal, Santa Cruz, Yavapai	130-8,500 ft	Cienegas, stock tanks, large-river riparian woodlands and forests, streamside gallery forests.	Core population areas in the U.S. include mid/upper Verde River drainage, mid/lower Tonto Creek, and the San Rafael Valley and surrounding area. Status on tribal lands unknown. Distributed south into Mexico along the Sierra Madre Occidental and Mexican Plateau. Strongly associated with the presence of a native prey base including leopard frogs and native fish.
Roundtail Chub	*Gila robusta*	Candidate	Member of the minnow family Cyprinidae and characterized by streamlined body shape. Color usually olive gray with silvery sides and a white belly. Breeding males develop red or orange coloration on the lower half of the cheeks and on the bases of paired fins. Individuals may reach 49.0 cm (19.3 in) but usually average 25-30 cm (9.8 - 11.8 in).	Apache, Coconino, Gila, Graham, Greenlee, LaPaz, Maricopa, Mohave, Navajo, Pinal, and Yavapai	1,000-7,500 ft.	Cool to warm waters of rivers and streams, often occupy the deepest pools and eddies of large streams.	Historical range of roundtail chub included both the upper and lower Colorado River basins. A 2009 status review determined that the lower Colorado River basin roundtail chub population segment (Arizona and New Mexico) qualifies as a distinct vertebrate population segment (DPS). Populations in the Little Colorado, Bill Williams, and Gila River basins are considered candidate species.

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Yellow-billed cuckoo	*Coccyzus americanus*	Candidate	Medium-sized bird with a slender, long-tailed profile, slightly down-curved bill that is blue-black with yellow on the lower half. Plumage is grayish-brown above and white below, with rufous primary flight feathers.	Apache, Cochise, Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Navajo, Pima, Pinal, Santa Cruz, Yavapai, Yuma	< 6,500 ft	Large blocks of riparian woodlands (cottonwood, willow, or tamarisk galleries).	Neotropical migrant that winters primarily in South America and breeds primarily in the U.S. (but also in southern Canada and northern Mexico). As a migrant it is rarely detected; can occur outside of riparian areas. Cuckoos are found nesting statewide, mostly below 5,000 feet in central, western, and southeastern Arizona. Concern for cuckoos are primarily focused upon alterations to its nesting and foraging habitat. Nesting cuckoos are associated with relatively dense, wooded, streamside riparian habitat, with varying combinations of Fremont cottonwood, willow, velvet ash, Arizona walnut, mesquite, and tamarisk. Some cuckoos have also been detected nesting in velvet mesquite, netleaf hackberry, Arizona sycamore, Arizona alder, and some exotic neighborhood shade trees.
American peregrine falcon	*Falco peregrinus anatum*	Delisted	A crow-sized falcon with slate blue-gray on the back and wings, and white on the underside; a black head with vertical "bandit's mask" pattern over the eyes; long pointed wings; and a long wailing call made during breeding. Very adept flyers and hunters, reaching diving speeds of 200 mph.	Apache, Cochise, Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Navajo, Pima, Pinal, Santa Cruz, Yavapai, Yuma	3,500-9,000 ft	Areas with rocky, steep cliffs, primarily near water, where prey (primarily shorebirds, songbirds, and waterfowl) concentrations are high. Nests are found on ledges of cliffs, and sometimes on man-made structures such as office towers and bridge abutments.	Species recovered with over 1,650 breeding birds in the US and Canada.

Apache County

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Apache (Arizona) trout	*Oncorhynchus gilae apache*	Threatened	Yellowish to yellow-olive cutthroat-like trout with large dark spots on body. Dorsal, anal, and caudal fins edged with white. No red lateral band.	Apache, Coconino, Gila, Graham, Greenlee, Navajo	> 5,000 ft	Streams and rivers generally above 6,000 ft. elevation with adequate stream flow and shading; temperatures below 77 degrees F; and substrate composed of boulders, rocks, gravel and some sand and silt.	Presently restricted to drainages in the White Mountains. Hybridization with introduced trout has complicated efforts to maintain the genetic purity of some populations. Special regulations (4d Rule) allow Arizona to manage species as a sport fish.
Black-footed ferret	*Mustela nigripes*	Endangered	Weasel-like, yellow buff coloration with black on feet, tail tip, and eye mask. It has a blunt light colored nose and is 15-18 inches long and tail length is 5-6 inches.	Apache, Coconino, Navajo, Yavapai	< 10,500	Grassland plains generally found in association with prairie dogs.	Unsurveyed prairie dog towns may be occupied by ferrets or may be appropriate for future reintroduction efforts. The Service developed guidelines for surveying prairie dog towns which are available upon request. No wild populations of this species are currently known to exist in Arizona. Reintroduced population exists in Aubrey Valley (Coconino County), Arizona.
California condor	*Gymnogyps californianus*	Endangered	Very large vulture (47 in., wingspan to 9 1/2 ft, weight to 22 lbs); adult plumage blackish, immature more brownish; adult wing linings white, immature mottled; head and upper parts of neck bare; yellow-orange in adults, grayish in mature.	Apache, Coconino, Mohave, Navajo, Yavapai	Varies	High desert canyons and plateaus.	Recovery program has reintroduced condors to Northern Arizona, with the first release (6 birds) in December 1996. The release site is located at the Vermillion Cliffs (Coconino County), with an experimental/nonessential area designated for most of Northern Arizona and Southern Utah. The area in Arizona is within a polygon formed by Hwy 191, Interstate 40, and Hwy 93, and extends north of the Arizona-Utah and Nevada borders. Breeding is documented in Arizona.

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Chiricahua leopard frog	*Lithobates [Rana] chiricahuensis*	Threatened	Cream colored tubercles (spots) on a dark background on the rear of the thigh, dorsolateral folds that are interrupted and deflected medially, and a call given out of water distinguish this spotted frog from other leopard frogs.	Apache, Cochise, Coconino, Gila, Graham, Greenlee, Navajo, Pima, Santa Cruz, Yavapai	3,300-8,900 ft	Streams, rivers, backwaters, ponds, and stock tanks that are mostly free from introduced fish, crayfish, and bullfrogs.	Require permanent or nearly permanent water sources. Populations north of the Gila River may be a closely-related, but distinct, undescribed species. A special rule allows take of frogs due to operation and maintenance of livestock tanks on State and private lands.
Little Colorado spinedace	*Lepidomeda vittata*	Threatened	Small (<4 inches long) silvery minnow.	Apache, Coconino, Navajo	4,000-8,000 ft	Moderate to small streams; found in pools and riffles with water flowing over fine gravel and silt substrate.	Critical habitat includes eighteen miles of East Clear Creek, eight miles of Chevelon Creek, and five miles of Nutrioso Creek.
Loach minnow	*Tiaroga cobitis*	Threatened	Small (<3 inches) slender, elongated fish, olive colored with dirty white spots at the base of the dorsal and caudal fins. Breeding males vivid red on mouth and base of fins.	Apache, Cochise, Gila, Graham, Greenlee, Navajo, Pinal	< 8,000 ft	Benthic species of small to large perennial streams with swift shallow water over cobble and gravel. Recurrent flooding and natural hydrograph important.	Presently found in Aravaipa Creek, Deer Creek, Turkey Creek, Blue River, Campbell Blue Creek, San Francisco River, Eagle Creek, North Fork of the East Fork Black River, and White River in Arizona, and Dry Blue Creek, Pace Creek, Frieborn Creek, the Tularosa River, West Fork Gila River, and the mainstem upper Gila River in New Mexico. Populations have been recently reintroduced in Hot Springs and Redfield canyons in Cochise and Graham counties; Fossil Creek in Gila County; and Bonita Creek in Graham County Arizona. Critical habitat (72 FR 13356-13422, March 21, 2007) found in Apache, Graham, Greenlee, and Pinal counties, Arizona, as well as portions of the Blue River, San Francisco River, Tularosa River, Negrito Creek, Pace Creek, Dry Blue Creek, Frieborn Creek, Whitewater Creek, Gila River, and its West, Middle, and East Forks in Catron, Grant, and Hidalgo counties in New Mexico.

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Mexican gray wolf	*Canis lupus baileyi*	Endangered	Large dog-like carnivore. Head and feet are large in proportion to rest of body. Coat color varies with mix of brown, rust, black, gray, and white. Distinct white lip line around mouth. Adults weigh between 60-90 pounds.	Apache, Gila, Greenlee, Navajo	4,000-12,000 ft	Chaparral, woodland, and forested areas. May cross desert areas.	In March 1998, Mexican gray wolves were reintroduced as an experimental nonessential (10j) population under a program to re-establish the subspecies to a portion of its historical range. Wolves are released within the experimental boundary into a designated area known as the "Blue Range Wolf Recovery Area" (BRWRA) located in the Apache National Forest in Greenlee and Apache counties. Mexican gray wolves found outside of the experimental nonessential boundary are considered endangered. In 2002, the White Mountain Apache tribe (WMAT) became one of the lead agencies for the reintroduction and allowed wolves on their lands. This effectively expanded the experimental nonessential population into Navajo, Apache, and Gila counties on WMAT lands.
Mexican spotted owl	*Strix occidentalis lucida*	Threatened	Medium sized with dark eyes and no ear tufts. Brownish and heavily spotted with white or beige.	Apache, Cochise, Coconino, Gila, Graham, Greenlee, Maricopa, Mohave, Navajo, Pima, Pinal, Santa Cruz, Yavapai	4,100-9,000 ft	Nests in canyons and dense forests with multi-layered foliage structure.	Generally nest in older forests of mixed conifer or ponderosa pine/gambel oak type, in canyons, and use variety of habitats for foraging. Sites with cool microclimates appear to be of importance or are preferred. Critical habitat was finalized on August 31, 2004 (69 FR 53182) in Arizona in Apache, Cochise, Coconino, Gila, Graham, Greenlee, Maricopa, Navajo, Pima, Pinal, Santa Cruz, and Yavapai counties.
Navajo sedge	*Carex specuicola*	Threatened	Perennial forb with triangular stems, elongated rhizomes. Flower: white June and July.	Apache, Coconino, Navajo	5,700-6,000 ft	Silty soils at shady seeps and springs.	Designated critical habitat is on the Navajo Nation near Inscription House Ruins. Found at seep springs on vertical cliffs of pink-red Navajo sandstone.

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Southwestern willow flycatcher	*Empidonax traillii extimus*	Endangered	Small passerine (about 6 inches) grayish-green back and wings, whitish throat, light olive-gray breast and pale yellowish belly. Two wingbars visible. Eye-ring faint or absent.	Apache, Cochise, Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Navajo, Pima, Pinal, Santa Cruz, Yavapai, Yuma	< 8,500 ft	Cottonwood/willow and tamarisk vegetation communities along rivers and streams.	Migratory riparian-obligate species that occupies breeding habitat from late April to September. Distribution within its range is restricted to riparian corridors. Difficult to distinguish from other members of the Empidonax complex by sight alone. Training seminar required for those conducting flycatcher surveys. Critical habitat was finalized on October 19, 2005 (50 CFR 60886). In Arizona there are critical habitat segments in Apache, Cochise, Gila, Graham, Greenlee, Maricopa, Mohave, Pima, Pinal, and Yavapai counties.
Zuni fleabane	*Erigeron rhizomatus*	Threatened	Herbaceous perennial that grows in clusters of numerous erect unbranced stems up to 2.0 feet tall. Flower heads solitary; pale blue ray flowers and yellow disk flowers.	Apache	7,300-8,000 ft	Selenium-rich red or gray detrital clay soils derived from the Chinle and Baca formations.	Only one Arizona location; other 28 sites in Sawtooth Mountains and northwestern part of the Datil Mountains in Catron County, New Mexico. Two sites also on the northwest side of the Zuni Mountains in McKinley County, New Mexico.
New Mexican Jumping Mouse	*Zapus hudsonius luteus*	Candidate	Small rodent with extremely long tail and long hind feet. Pelage is coarse with a broad dorsal band of brown or yellowish brown darkened with brownish black hairs; sides paler; under parts white or sometimes suffused with yellowish color. Back of the forefeet and hind feet are grayish white; tail is sparsely haired and distinctly bicolor (dark brown above and yellowish white below). The head is small, narrow, and relatively high crowned. The nose is short and pointed. They are the only mammal with 18 teeth.	Apache	< 8,000 ft	Nests in dry soils but also uses moist, streamside, dense riparian/wetland vegetation.	The New Mexican jumping mouse is diminished to 6 populations in the White Mountains, Arizona. A inventory and status assessment throughout its historical range in Arizona is currently being conducted.

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Northern Mexican Gartersnake	*Thamnophis eques megalops*	Candidate	Background color ranges from olive, olive-brown, to olive-gray. Body has three yellow or light colored stripes running down the length of the body, darker towards tail. Species distinguished from other native gartersnakes by the lateral stripes reaching the 3rd and 4th scale rows. Paired black spots extend along dorsolateral fields.	Apache, Cochise,Coconino , Gila, Graham, Navajo, Pima, Pinal, Santa Cruz, Yavapai	130-8,500 ft	Cienegas, stock tanks, large-river riparian woodlands and forests, streamside gallery forests.	Core population areas in the U.S. include mid/upper Verde River drainage, mid/lower Tonto Creek, and the San Rafael Valley and surrounding area. Status on tribal lands unknown. Distributed south into Mexico along the Sierra Madre Occidental and Mexican Plateau. Strongly associated with the presence of a native prey base including leopard frogs and native fish.
Roundtail Chub	*Gila robusta*	Candidate	Member of the minnow family Cyprinidae and characterized by streamlined body shape. Color usually olive gray with silvery sides and a white belly. Breeding males develop red or orange coloration on the lower half of the cheeks and on the bases of paired fins. Individuals may reach 49.0 cm (19.3 in) but usually average 25-30 cm (9.8 - 11.8 in).	Apache, Coconino, Gila, Graham, Greenlee, LaPaz, Maricopa, Mohave, Navajo, Pinal, and Yavapai	1,000-7,500 ft.	Cool to warm waters of rivers and streams, often occupy the deepest pools and eddies of large streams.	Historical range of roundtail chub included both the upper and lower Colorado River basins. A 2009 status review determined that the lower Colorado River basin roundtail chub population segment (Arizona and New Mexico) qualifies as a distinct vertebrate population segment (DPS). Populations in the Little Colorado, Bill Williams, and Gila River basins are considered candidate species.
Three Forks springsnail	*Pyrgulopsis trivialis*	Candidate	Minute hydrobiid snail; shell ovate to narrowly conic; height 0.05 -0.17 inches; whorls 2.5-5.0	Apache	8,000-8,500 ft	Rheocrene springs, seeps, marshes, spring pools, outflows and diverse lotic waters commonly referred to as cienegas.	Distribution limited to Three Forks and Boneyard Spring complexes in the North Fork of the East Fork Black River watershed.

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Yellow-billed cuckoo	*Coccyzus americanus*	Candidate	Medium-sized bird with a slender, long-tailed profile, slightly down-curved bill that is blue-black with yellow on the lower half. Plumage is grayish-brown above and white below, with rufous primary flight feathers.	Apache, Cochise, Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Navajo, Pima, Pinal, Santa Cruz, Yavapai, Yuma	< 6,500 ft	Large blocks of riparian woodlands (cottonwood, willow, or tamarisk galleries).	Neotropical migrant that winters primarily in South America and breeds primarily in the U.S. (but also in southern Canada and northern Mexico). As a migrant it is rarely detected; can occur outside of riparian areas. Cuckoos are found nesting statewide, mostly below 5,000 feet in central, western, and southeastern Arizona. Concern for cuckoos are primarily focused upon alterations to its nesting and foraging habitat. Nesting cuckoos are associated with relatively dense, wooded, streamside riparian habitat, with varying combinations of Fremont cottonwood, willow, velvet ash, Arizona walnut, mesquite, and tamarisk. Some cuckoos have also been detected nesting in velvet mesquite, netleaf hackberry, Arizona sycamore, Arizona alder, and some exotic neighborhood shade trees.
Zuni bluehead sucker	*Catostomus discorbolus yarrowi*	Candidate	Fusiform, slender, with a terminal mouth. Bluish head, silvery tan to dark green above, silvery to yellowish or dirty-white below. Sexually mature bluehead suckers range between 3.5 to 8 inches in length.	Apache	> 6,000 ft	Small streams in low-velocity, moderate deep pools, and pool-runs with seasonal dense algae. Young prefer quieter shallow areas near shoreline.	Limited to possibly one creek in Arizona and to the headwaters of Zuni River drainage in New Mexico. A Statewide Conservation Agreement between Arizona Game and Fish Department for six non-listed native fish, was finalized in December 2006.
Arizona willow	*Salix arizonica*	Conservation Agreement	Woody, perennial shrub reaching up to 8.5 feet tall; grows as a prostrate mat to large hedge or thicket plant; has small, egg-shaped leaves; new branches are yellow-green, previous years branches are bright red.	Apache	> 8,000 ft	Unshaded or partially shaded wet meadows, streamsides and cienegas; typically found in or adjacent to perennial water.	Known in the vicinity of Mount Baldy, on the Apache-Sitgreaves National Forest, and private land. Conservation agreement between the Service, Forest Service, and National Park Service finalized in April 1995.

COMMON NAME	SCIENTIFIC NAME	STATUS	DESCRIPTION	COUNTY	ELEVATION	HABITAT	COMMENTS
Gooddings onion	*Allium gooddingii*	Conservation Agreement	Herbaceous perennial plant; broad, flat, rather blunt leaves; flowering stalk 14-18 inches tall, flattened, and narrowly winged toward apex; fruit is broader than long; seeds are short and thick.	Apache, Greenlee, Pima	7,500-11,250 ft	Shaded sites on north-trending drainages, on slopes, or in narrow canyons, within mixed conifer and spruce fir forests.	Known from the White, Santa Catalina, and Chuska Mountains. Also found in New Mexico on the Lincoln and Gila National Forests. A Conservation Agreement between the Service and the Forest Service signed in February 1998.
American peregrine falcon	*Falco peregrinus anatum*	Delisted	A crow-sized falcon with slate blue-gray on the back and wings, and white on the underside; a black head with vertical "bandit's mask" pattern over the eyes; long pointed wings; and a long wailing call made during breeding. Very adept flyers and hunters, reaching diving speeds of 200 mph.	Apache, Cochise, Coconino, Gila, Graham, Greenlee, La Paz, Maricopa, Mohave, Navajo, Pima, Pinal, Santa Cruz, Yavapai, Yuma	3,500-9,000 ft	Areas with rocky, steep cliffs, primarily near water, where prey (primarily shorebirds, songbirds, and waterfowl) concentrations are high. Nests are found on ledges of cliffs, and sometimes on man-made structures such as office towers and bridge abutments.	Species recovered with over 1,650 breeding birds in the US and Canada.

Arizona BLM Sensitive Species List (December 2008)	AZ-100	AZ-200	AZ-300			AZ-400		Other Considerations & Criteria (new MS 6840)			
Key: V=Verified Occurrence H=Probable/Possible/Hypothetical Occurrence	Arizona Strip District Office	Phoenix District Office	Kingman Field Office (AZ-310)	Yuma Field Office (AZ-320)	Lake Havasu Field Office (AZ-330)	Safford Field Office (AZ-410)	Tucson Field Office (AZ-420)	State list?1 ANPL or WOSC (Y/N)	BLM lands important & Recent downward trend/threat to significant portion of range	BLM lands important & Refugia or specialized unique habitat at risk	In Adjacent states? (Y/N)
All Federal Candidates	H	H	H	H	H	H	H	N/A	Unknown	Unknown	Unknown
Plants											
Aquarius milkvetch (*Astragalus newberryi var. aquarii*)			V					N	Y, (Rockhounding,Rights-of-way, Zeolite mining potential)	Narrow range, limestone deposits, Burro Creek area	N
Aravaipa woodfern (*Thelypteris puberula var. sonorensis*)			V			V		N	Unknown	Scattered at few springs	Y
Aravaipa sage (*Salvia amissa*)						V		N	Unknown	Narrow range, habitat floodplain terraces in shady canyons	N
Arizona Sonoran rosewood (*Vauquelinia californica* ssp *sonorensis*)		V						N	Unknown	Relict species in shady canyons	Y

1 ANPL=Arizona Native Plant Law, WOSC=Wildlife of Special Concern in Arizona. Y=Yes, N=No

Arizona BLM Sensitive Species List (December 2008)	AZ-100	AZ-200	AZ-300			AZ-400		Other Considerations & Criteria (new MS 6840)			
Key: V=Verified Occurrence H=Probable/Possible/Hypothetical Occurrence	**Arizona Strip District Office**	**Phoenix District Office**	**Kingman Field Office (AZ-310)**	**Yuma Field Office (AZ-320)**	**Lake Havasu Field Office (AZ-330)**	**Safford Field Office (AZ-410)**	**Tucson Field Office (AZ-420)**	**State list?1 ANPL or WOSC (Y/N)**	**BLM lands important & Recent downward trend/threat to significant portion of range**	**BLM lands important & Refugia or specialized unique habitat at risk**	**In Adjacent states? (Y/N)**
Bartram stonecrop (*Graptopetalum bartramii*)							V	N	Unknown	Narrow range, habitat rocky outcrops in canyons with Madrean Woodland	N
Blue sand lily (*Triteleiopsis palmeri*)				V				N	Unknown	Sand dunes and sandy soils	Y
California flannelbush (*Fremontodendron californica*)		V	V					N	Unknown	Relict populations in shady canyons	Y
Cliff milkvetch (*Astragalus cremnophylax* var.*myriorraphus*)	V							N	Unknown	Narrow range, limestone cliff rims, Buckskin Mt	N
Clifton rock daisy (*Perityle ambrosiifolia*)						V		N	Unknown	Narrow range, habitat cliff faces of Gila Conglomerate	N
Dalhouse spleenwort (*Asplenium (=Ceterach) dalhousiae*)							V	N	Unknown, possibly collection	Cliff face seeps, Mule Mts	Y
Diamond Butte milkvetch (*Astragalus toanus* var.*scidulus*)	V							N	Unknown	Narrow range, habitat Moenkopi Formation badlands with red soils	N

Arizona BLM Sensitive Species List (December 2008)	**AZ-100**	**AZ-200**	**AZ-300**			**AZ-400**		**Other Considerations & Criteria (new MS 6840)**			
Key: V=Verified Occurrence H=Probable/Possible/Hypothetical Occurrence	**Arizona Strip District Office**	**Phoenix District Office**	**Kingman Field Office (AZ-310)**	**Yuma Field Office (AZ-320)**	**Lake Havasu Field Office (AZ-330)**	**Safford Field Office (AZ-410)**	**Tucson Field Office (AZ-420)**	**State list?1 ANPL or WOSC (Y/N)**	**BLM lands important & Recent downward trend/threat to significant portion of range**	**BLM lands important & Refugia or specialized unique habitat at risk**	**In Adjacent states? (Y/N)**
Fish Creek fleabane (*Erigeron piscaticus*)						H		N	Unknown	Narrow range, habitat floodplain terraces in shady canyons	N
Gentry indigo bush (*Dalea tentaculoides*)							H	Y	Unknown	Narrow range, floodplain terraces in shady canyons	Y
Giant sedge (*Carex spissa* var. *ultra*)		V				V	V	N		Springs	N
Grand Canyon rose (*Rosa stellata* var.*abyssa*)	V							N	Unknown	Narrow range, habitat limestone cliff rims	N
Huachuca golden aster (*Heterotheca rutteri*)							V	N	Unknown	Narrow range, habitat Plains Grassland, Empire Cienegas Ranch NCA	N
Huachuca milkvetch (*Astragalus hypoxylus*)							H	Y	Livestock, recreation trampling		N
Kaibab pincushion [plains] cactus (*Pediocactus paradinei*)	V							Y	Conservation Agreement	Narrow range, habitat leaf litter under Madrean Woodlands	N

Arizona BLM Sensitive Species List (December 2008)	**AZ-100**	**AZ-200**	**AZ-300**			**AZ-400**		**Other Considerations & Criteria (new MS 6840)**			
Key: V=Verified Occurrence H=Probable/Possible/Hypothetical Occurrence	**Arizona Strip District Office**	**Phoenix District Office**	**Kingman Field Office (AZ-310)**	**Yuma Field Office (AZ-320)**	**Lake Havasu Field Office (AZ-330)**	**Safford Field Office (AZ-410)**	**Tucson Field Office (AZ-420)**	**State list?1 ANPL or WOSC (Y/N)**	**BLM lands important & Recent downward trend/threat to significant portion of range**	**BLM lands important & Refugia or specialized unique habitat at risk**	**In Adjacent states? (Y/N)**
Kearney sumac (*Rhus kearneyi* ssp *kearneyi*)				V				N	Unknown	Relict species in shady canyons	N
Kofa Mt barberry (*Berberis harrisoniana*)		H		H	H			N	Unknown	Relict species in shady canyons	Y
Marble Canyon indigo bush (*Psorothamnus arborescens* var *pubescens*)	V							N	Unknown	Narrow range, habitat red soils of Moenkopi Formation Marble Canyon	N
Marble Canyon Milkvetch (*Astragalus cremnophylax* var. *hevronii*)	V							N	Unknown	Narrow range, limestone cliff rims, Marble Canyon	N
Mt Trumbull beardtongue (*Penstemon distans*)	V							Y	Unknown	Narrow range, limestone soils	N
Murphey agave (*Agave murpheyi*)		V						Y	Urban sprawl & development, collection	Low numbers, desert foothills, central AZ	N
Paria Plateau fishhook cactus (*Sclerocactus sileri*)	V							Y	Unknown	Narrow range, sandy soils, Paria Plateau	N

Arizona BLM Sensitive Species List (December 2008)	AZ-100	AZ-200	AZ-300			AZ-400		Other Considerations & Criteria (new MS 6840)			
Key: V=Verified Occurrence H=Probable/Possible/Hypothetical Occurrence	**Arizona Strip District Office**	**Phoenix District Office**	**Kingman Field Office (AZ-310)**	**Yuma Field Office (AZ-320)**	**Lake Havasu Field Office (AZ-330)**	**Safford Field Office (AZ-410)**	**Tucson Field Office (AZ-420)**	**State list?1 ANPL or WOSC (Y/N)**	**BLM lands important & Recent downward trend/threat to significant portion of range**	**BLM lands important & Refugia or specialized unique habitat at risk**	**In Adjacent states? (Y/N)**
Parish phacelia (*Phacelia parishii*)			V					N	Unknown	Narrow range, limestone deposits, Burro Creek area, dry lake beds, Red Lake	Y
Parish wild onion (*Allium parishii*)				H	V			Y	Unknown	Narrow range, higher elevation in desert mts, Mohave Mts	Y
Pima Indian mallow (*Abutilon parishii*)						V	V	N	Unknown, spread of buffelgrass	Rocky slopes, good condition desert mtns	N
Pinto beardtongue (*Penstemon bicolor*)			V					Y	Unknown	Narrow range, desert washes, Black Mts	Y
Purple-spike coralroot *(Hexalectris warnockii)*							V	Y	Unknown	Few populations, habitat leaf litter under Madrean Woodand	Y
Round-leaf broom *(Errazurizia rotundata)*						V		N	Unknown	Narrow range, habitat Shinarump Hills, Holbrook area	N

Arizona BLM Sensitive Species List (December 2008)	AZ-100	AZ-200	AZ-300			AZ-400		Other Considerations & Criteria (new MS 6840)			
Key: V=Verified Occurrence H=Probable/Possible/Hypothetical Occurrence	**Arizona Strip District Office**	**Phoenix District Office**	**Kingman Field Office (AZ-310)**	**Yuma Field Office (AZ-320)**	**Lake Havasu Field Office (AZ-330)**	**Safford Field Office (AZ-410)**	**Tucson Field Office (AZ-420)**	**State list?1 ANPL or WOSC (Y/N)**	**BLM lands important & Recent downward trend/threat to significant portion of range**	**BLM lands important & Refugia or specialized unique habitat at risk**	**In Adjacent states? (Y/N)**
San Pedro River wild buckwheat (*Eriogonum terrenatum*)							V	N	Unknown	Narrow range, habitat limestone and clay soils of St. David Formation, San Pedro Riparian NCA	N
Sand food (*Pholisma sonorae*)				V				N	Unknown	Sand dunes, Yuma area	Y
Scaly sand food (*Pholisma arenaria*)					V			N	Unknown	Sand dunes, Cactus Plain	Y
Schott wire-lettuce (*Stephanomeria schottii*)		~~V~~		V				N	Unknown	Sand dunes, sandy soils, Yuma area	N
September 11 stickleaf (*Mentzelia memorabilis*)	V							N	Unknown	Narrow range, gypsum soils of Harrisburg Formation	N
Silverleaf sunray (*Enceliopsis argophylla*)	V							N	Unknown	Narrow range, gypsum soils of Moenkopi Formation	Y
Sticky wild buckwheat (*Eriogonum viscidulum*)	V							N	Unknown	Narrow range, habitat sandy loam soils, Virgin River Valley	Y

Arizona BLM Sensitive Species List (December 2008)	AZ-100	AZ-200	AZ-300			AZ-400		Other Considerations & Criteria (new MS 6840)			
Key: V=Verified Occurrence H=Probable/Possible/Hypothetical Occurrence	**Arizona Strip District Office**	**Phoenix District Office**	**Kingman Field Office (AZ-310)**	**Yuma Field Office (AZ-320)**	**Lake Havasu Field Office (AZ-330)**	**Safford Field Office (AZ-410)**	**Tucson Field Office (AZ-420)**	**State list?1 ANPL or WOSC (Y/N)**	**BLM lands important & Recent downward trend/threat to significant portion of range**	**BLM lands important & Refugia or specialized unique habitat at risk**	**In Adjacent states? (Y/N)**
Three-cornered milkvetch (*Astragalus geyeri* var *triquetrus*)	V							N	Unknown	Narrow range, habitat sandy loam soils, Virgin River Valley	Y
Tumamoc globeberry (*Tumamoca macdougalii*)		V					V	Y	Unknown	Few populations, Sonoran Desert plains	Y
White-margined penstemon (*Penstemon albomarginatus*)			V					Y	Unknown	Narrow range, habitat sandy loam soils, Dutch Flat	Y
Invertebrates											
Succineid snails (all species in family Succineidae) on public land	H							N		Y (springs)	Y
Hydrobiid spring snails (all species in genus *Pyrgulopsis*) on public land	V		V			V		N		Y (springs)	Y
Grand Wash springsnail (*Pyrgulopsis bacchus*)	H							N		Y (springs)	N
Kingman springsnail (*Pyrgulopsis conica*)			H					N		Y (springs)	N
Desert springsnail (*Pyrgulopsis deserta*)			H					N		Y (springs)	N
Gila Tryonia (*Tryonia gilae*)						H		N		Y (springs)	N

Arizona BLM Sensitive Species List (December 2008)	AZ-100	AZ-200	AZ-300			AZ-400		Other Considerations & Criteria (new MS 6840)			
Key: V=Verified Occurrence H=Probable/Possible/Hypothetical Occurrence	**Arizona Strip District Office**	**Phoenix District Office**	**Kingman Field Office (AZ-310)**	**Yuma Field Office (AZ-320)**	**Lake Havasu Field Office (AZ-330)**	**Safford Field Office (AZ-410)**	**Tucson Field Office (AZ-420)**	**State list?1 ANPL or WOSC (Y/N)**	**BLM lands important & Recent downward trend/threat to significant portion of range**	**BLM lands important & Refugia or specialized unique habitat at risk**	**In Adjacent states? (Y/N)**
Fish											
Longfin dace *(Agosia chrysogaster)*		V	V		V	V	V	N	Y (dewatering)	Y (streams)	Y
Flannelmouth sucker (*Catostomus latipinnis*)	V	V		V	V	V	H	N	Y (dewatering)	Y (streams)	Y
Desert sucker (*Catostomus [Pantosteus] clarki*)	V	V	V			V	V	N	Y (dewatering)	Y (streams)	Y
Sonora sucker (*Catostomus insignis*)		V	V			V	V	N	Y (dewatering)	Y (streams)	Y
Little Colorado sucker (*Catostomus sp.*)						H		Y	Y (dewatering)	Y (streams)	
Yaqui sucker (*Catostomus bernardini*)						H		Y	Y(dewatering, nonnatives)	? (streams, artesian ponds)	N
Speckled dace *(Rhinichthys osculus)*	V	V	V			V	V	N	Y (dewatering)	Y (streams)	Y
Virgin spinedace (*Lepidomeda mollispinis mollispinis*)	V							Y	Y(dewatering, nonnatives) Conservation Agreement	Y (streams)	Y
Roundtail chub (*Gila robusta*)		H	V					Y	Y (dewatering)	Y (streams)	Y
Amphibians											
Western barking frog (*Eleutherodactylus augusti cactorum*)						H	H	Y		? (Limestone outcrops)	N
Lowland burrowing treefrog (Pternohyla fodiens)		V					H	Y	Y Barriers, nonnatives	Y (Temporary ponds in mesquite grassland)	N

Arizona BLM Sensitive Species List (December 2008)	AZ-100	AZ-200	AZ-300			AZ-400		Other Considerations & Criteria (new MS 6840)			
Key: V=Verified Occurrence H=Probable/Possible/Hypothetical Occurrence	**Arizona Strip District Office**	**Phoenix District Office**	**Kingman Field Office (AZ-310)**	**Yuma Field Office (AZ-320)**	**Lake Havasu Field Office (AZ-330)**	**Safford Field Office (AZ-410)**	**Tucson Field Office (AZ-420)**	**State list?1 ANPL or WOSC (Y/N)**	**BLM lands important & Recent downward trend/threat to significant portion of range**	**BLM lands important & Refugia or specialized unique habitat at risk**	**In Adjacent states? (Y/N)**
Great Plains narrow-mouthed toad (*Gastrophryne olivacea*)		V					H	Y		Y (Temporary ponds in tobosa grass habitat)	Y
Ramsey Canyon leopard frog (*Rana subaquavocalis*)							V	Y	Conservation Agreement	Y(Tanks, seeps, springs, surface water)	N
Lowland leopard frog (*Rana yavapaiensis*)		V	V		V	V	V	Y	Y	Y (springs, seeps, surface water)	Y
Northern leopard frog (*Rana pipiens*)		H				H		Y	? (non-native predators, pollution)	? (Tanks, seeps, springs, surface water)	
Reptiles											
Sonoran desert tortoise (*Gopherus agassizii*)		V	V	V	V	V	V	Y	Y (cumulative)	Y (boulders)	N
Flat-tailed horned lizard (*Phrynosoma mcallii*)				V				Y	Conservation Agreement	Y (fine sand)	Y
Yuman desert fringe-toed lizard (*Uma rufopunctata*)				V				Y		Y (fine sand	
Mohave fringe-toed lizard (*Uma scoparia*)					V			Y		Y (fine sand)	Y
Chuckwalla (*Sauromalus ater*)	V	V	V	V	V	V	V	N	Y (mining, mineral material sales, ROW, collection)	Y (boulders)	Y
Rosy boa *(Charina trivirgata)*		V	V	V	V	H	V	N	Y mining, mineral material sales, ROW, collection)	Y (boulders)	Y

Arizona BLM Sensitive Species List (December 2008)	AZ-100	AZ-200	AZ-300			AZ-400		Other Considerations & Criteria (new MS 6840)			
Key: V=Verified Occurrence H=Probable/Possible/Hypothetical Occurrence	**Arizona Strip District Office**	**Phoenix District Office**	**Kingman Field Office (AZ-310)**	**Yuma Field Office (AZ-320)**	**Lake Havasu Field Office (AZ-330)**	**Safford Field Office (AZ-410)**	**Tucson Field Office (AZ-420)**	**State list?1 ANPL or WOSC (Y/N)**	**BLM lands important & Recent downward trend/threat to significant portion of range**	**BLM lands important & Refugia or specialized unique habitat at risk**	**In Adjacent states? (Y/N)**
Tucson shovel-nosed snake (*Chionactis occipitalis klauberi*)		V					V	N	Y (agricultural & urban development, ROW)	Y (fine sand)	N
Narrow-headed garter snake (*Thamnophis rufopunctata*)						H			Y (nonnative predators)	Y (riparian	Y
Birds											
Clark's Grebe (*Aechmophorus clarki*)		V		V	V			Y		Y(lake, marsh)	Y
Great Egret (*Ardea alba*)		V	V	V	V			Y		Y (riparian)	Y
Snowy Egret (*Egretta thula*)		V	V	V	V			Y		Y (riparian)	Y
American bittern (*Botaurus lentiginosus*)		H	H	V	V			Y		Y(lake, marsh)	Y
Least bittern (*Ixobrychus exilis*)		H	H	V	V			Y		Y(lake, marsh)	Y
American peregrine falcon (*Falco peregrinus anatum*)	V	V	V	V	V	V	V	Y			Y
Mississippi kite (*Ictinia mississippiensis*)								Y		Y (riparian, lake pond)	Y
Bald eagle (*Haliaeetus leucocephalus*)	V	V	V	V	V	V	V	Y	Outside desert nesting area	Y (riparian, lake pond)	Y
Osprey (*Pandion haliaetus*)								Y		Y (riparian, lake pond)	Y
Northern goshawk (*Accipiter gentilis*)	V		V			V	V	Y		Y (healthy forests)	Y

Arizona BLM Sensitive Species List (December 2008)	**AZ-100**	**AZ-200**	**AZ-300**			**AZ-400**		**Other Considerations & Criteria (new MS 6840)**			
Key: V=Verified Occurrence H=Probable/Possible/Hypothetical Occurrence	**Arizona Strip District Office**	**Phoenix District Office**	**Kingman Field Office (AZ-310)**	**Yuma Field Office (AZ-320)**	**Lake Havasu Field Office (AZ-330)**	**Safford Field Office (AZ-410)**	**Tucson Field Office (AZ-420)**	**State list?1 ANPL or WOSC (Y/N)**	**BLM lands important & Recent downward trend/threat to significant portion of range**	**BLM lands important & Refugia or specialized unique habitat at risk**	**In Adjacent states? (Y/N)**
Swainson's hawk (*Buteo swainsoni*) breeding pop. only		V	V			V	V	Y	Y (improper grazing management, ROW)	Y (healthy desert grassland)	Y
Ferruginous hawk (*Buteo regalis*) breeding pop. only		V	V			V	V	Y	Y (improper grazing management, ROW)	Y (healthy desert grassland	Y
Northern gray hawk (*Buteo nitidus maxima*)						V	V	Y		Y (riparian)	N
Common black-hawk (*Buteogallus anthracinus*)						V	V	Y		Y (riparian)	Y
California black rail (*Laterallus jamaicensis coturniculus*)								Y		Y (marsh)	Y
Cactus ferruginous pygmy-owl (*Glaucidium brasilianum) cactorum*)		V					V	Y	Y (OHV & livestock use of washes, ROW)	Y (high structural & floristic diversity AZ upland & washes)	N
Western burrowing owl *(Athene cunicularia hypugea)*	V	V	V	V	V	V	V	N		?	Y
Thick-billed kingbird (*Tyrannus crassirostris*)						H	H	Y		Y (riparian)	Y
Tropical kingbird (*Tyrannus melancholicus*)						H	H	Y		Y (riparian)	Y
Sprague's pipit (*Anthus spragueii*)							V	Y		Y (high cover & diversity desert grassland)	Y
Baird's sparrow (*Ammodrammus bairdii*)							V	Y		Y (high cover & diversity desert grassland)	Y

Arizona BLM Sensitive Species List (December 2008)	AZ-100	AZ-200	AZ-300			AZ-400		Other Considerations & Criteria (new MS 6840)			
Key: V=Verified Occurrence H=Probable/Possible/Hypothetical Occurrence	Arizona Strip District Office	Phoenix District Office	Kingman Field Office (AZ-310)	Yuma Field Office (AZ-320)	Lake Havasu Field Office (AZ-330)	Safford Field Office (AZ-410)	Tucson Field Office (AZ-420)	State list?1 ANPL or WOSC (Y/N)	BLM lands important & Recent downward trend/threat to significant portion of range	BLM lands important & Refugia or specialized unique habitat at risk	In Adjacent states? (Y/N)
Mammals											
Mexican long-tongued bat (*Choeronycteris mexicana*)								Y		Y (roost sites)	Y, NM
Spotted bat (*Euderma maculatum*)								Y		Y (roost sites)	Y
Western red bat (*Lasiurus blossevillii*)		H	V			H	H	Y		Y (roost sites)	Y
Western yellow bat (*Lasiurus xanthinus*)		H		V	H	V	V	Y		Y (roost sites)	Y
California leaf-nosed bat (Macrotus californicus)								Y		Y (roost sites)	Y
Townsend's bit-eared bat (*Plecotis townsendii*)	V	V	V	V	V	V	V	Y		Y (roost sites)	Y
Greater western mastiff bat (*Eumops perotis*)		V	V		H	V	V	Y		Y (roost sites)	Y
Black-tailed prairie dog (*Cynomys ludovicianus*)						H	H	Y	Y (Conservation agreement)		Y, NM
Houserock Valley Chisel-toothed Kangaroo Rat (*Dipodomys microps leucotis*)	V							Y		Y (*Atriplex* scrub)	N
New Mexico Banner-tailed Kangaroo Rat (*Dipodomys spectabilis baileyi*)						H		Y	?		Y, NM
Southwestern river otter (*Lutra canadensis sonora*)				H	H	H		Y		Y (riparian)	Y, NM

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
WinSystems Center Building
711 Stadium Drive, Suite 252
Arlington, Texas 76011

December 22, 2009

21420-2010-I-0095

Mr. Kent M. Friedrichsen
Department of the Air Force
Air Force Research Laboratory
3550 Aberdeen Avenue SE, Bldg 462
Kirtland AFB, NM 87117

Dear Mr. Friedrichsen:

This responds to your recent memorandum requesting information relative to the proposed balloon launch and landing project in Dawson, Gaines, Lynn, Terry and Yoakum Counties, Texas. Other potentially impacted areas in Texas, New Mexico, and Arizona are not within the Arlington, Texas, Ecological Services Field Office's area of responsibility. It is our understanding that the proposed project would involve approximately 30 balloon operations per year, some of which may occur in the aforementioned Texas counties. Your correspondence indicates that launch sites will generally be selected in secure areas with runways or ramps and that recovery sites will be planned to avoid natural and cultural resources.

Our records indicate that the following federally listed endangered (E), candidate (C), and delisted (DL) species are known to occur in Dawson, Gaines, Lynn, Terry and Yoakum Counties, Texas:

bald eagle (*Haliaeetus leucocephalus*) – DL – all counties
lesser prairie-chicken (*Tympanuchus pallidicinctus*) – C – Gaines, Terry, Yoakum
sand dune lizard (*Sceloporus arenicolus*) – C – Gaines, Yoakum
whooping crane (*Grus americana*) – E – Dawson, Lynn, Terry, Yoakum

For information on the general biology of these species, as well as updated county by county species lists, visit our website at: http://fws.gov/southwest/es/EndangeredSpecies.

The bald eagle was removed from the federal threatened and endangered species list on August 8, 2007. However, bald eagles are still afforded safeguards under the Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act. We recommend all construction activities be

conducted in accordance with the Service's National Bald Eagle Management Guidelines which may be accessed at the following address: http://www.fws.gov/migratorybirds/baldeagle.htm.

Candidate species are not afforded federal protection under the Endangered Species Act; however, we recommend that potential impacts to these species be considered during project planning. The lesser prairie-chicken (LPC) is a species of prairie grouse endemic to the southern high plains. The LPC's preferred habitat is mixed sand sagebrush or shinnery oak grasslands, typically lacking in tall woody vegetation. Fragmentation, development and conversion of this habitat have led to an 86% reduction in the LPC's occupied range. The sand dune lizard (SDL) is a subspecies of insectivorous sagebrush lizard endemic to shinnery oak sand dune systems. The SDL's preferred habitat is characterized by sandy craters in the shinnery oak sand dune system called "blowouts." Habitat destruction is the primary factor implicated for the reduced range of the SDL.

The project area does not lie within the 200-mile wide corridor extending from Canada to the Texas Coast in which 94% of whooping crane sightings have occurred during their annual migration. However, our records indicate that whooping cranes may occasionally utilize wetlands and lakes in this area as stopover habitat. Whooping crane migratory flights are generally at altitudes of between 1,000 and 6,000 feet, although they fly at lower altitudes when seeking stop-over habitats such as reservoirs, large ponds, rivers and wetlands.

Your correspondence also requested information regarding requirements for property access to recovery balloon equipment on U.S. Fish and Wildlife Service lands. The Service does not maintain any land within Dawson, Gaines, Lynn, Terry and Yoakum Counties, Texas.

Thank you for the opportunity to comment on the proposed project. Any further correspondence concerning this project should include the Service consultation number (21420-2010-I-0095). If you have any questions please contact John Morse of my staff at (817) 277-1100.

Sincerely,

Tom Cloud

Thomas J. Cloud, Jr.
Field Supervisor

Record of Conversation

Date: 1/20/2010

Call to: Michelle Rau, CH2M HILL/ COS 719-477-4912

Call From: Vicky Gauer, US Forest Service, 936-639-8506

Re: AFRL Balloon Launch EA agency letter

Vicky Gauer stated that Linda Brett, Forest Supervisor; "has reviewed the documentation the was faxed over yesterday and is fine with it… but she would like a copy of the EA when it comes out".

USDA United States Department of Agriculture | Forest Service | Cibola National Forest and National Grasslands | 2113 Osuna Road NE Albuquerque, NM 87113-1001 (505) 346-3900 FAX: 346-3901

File Code: 1950
Date: January 4, 2010

Ms. Lyna Black
Environmental Planner
CH2M HILL
4041 Jefferson Plaza NE, Ste 200
Albuquerque, NM 87109

Re: Balloon Launch & Landing Operations, Air Force Research Laboratory, Kirtland AFB, NM

Dear Ms. Black:

We have reviewed your letter concerning the proposed launch and landing operations suggested by AFRL/RV of Kirtland AFB. Based upon the broad project description, it is difficult to provide any meaningful input on this proposal. Four of our Ranger Districts are within the area of the proposed action. Without knowing the extent to which these Districts would be affected, I can only provide general comments.

Both federal and state listings for threatened, endangered, and sensitive plants and animals will need to be consulted and the necessary avoidance will need to occur. There are culture sites, a traditional cultural property (TCP), road less areas, and wilderness areas on these Districts which will need to be considered as well.

It is indicated that landing and recovery sites would be planned with existing unpaved roads. The Forest is presently evaluating the road systems of the District's through the travel management process. This process will result in the designation of a road system for each District which is open for use, decommissioning of routes, and restriction of overland travel. An authorization would be required for any balloon recovery activity that might take place off designated roads.

As more specific information and location details become available, we will assist in providing available information. You may contact Donald Hall, Lands Specialist, at 505-346-3835 if you have any questions.

Sincerely,

Nancy Rose

NANCY ROSE
Forest Supervisor

SHPO - 2010 - 1633 (89559)
CNAE

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Arizona SHPO
James Garrison
SHPO
1300 W. Washington Street
Phoenix, AZ 85007

JAN 20 2011

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

The CRM, Ms. Valerie Renner, will be contacting your office to retrieve the historic properties geodatabase of site locations to avoid. We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

Conditional No Adverse Effect

*

CONCUR
for Anne G. Howard 3-1-11
ARIZONA STATE HISTORIC PRESERVATION OFFICER
ARIZONA STATE PARKS BOARD

Contingent upon avoidance measures specified in the S.O.P. and upon concurrence from respective land managers and THPOs.

2009-1875 (75759) NHPA

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

MEMORANDUM FOR: Arizona SHPO
James Garrison
SHPO
1300 W. Washington Street
Phoenix, AZ 85007

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Environmental Assessment for Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is preparing an Environmental Assessment (EA) of potential impacts resulting from implementation of the Proposed Action and alternatives. The assessment will be prepared in accordance with United States Air Force (USAF or Air Force) requirements under the National Environmental Policy Act of 1969 (NEPA).

The AFRL/RV must also consider the effects of the projects on cultural resources potentially eligible for or listed on the National Register of Historic Places in accordance with the National Historic Preservation Act (NHPA).

The AFRL/RV is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth). The mission of the AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. The AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in the attached Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. The AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If

conditions are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas (see Figure 1).

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover the balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

In order to invite comment from Native Americans, we will also initiate consultation with the Navajo Nation, Pueblo of Acoma, Pueblo of Isleta, and Pueblo of Laguna.

The AFRL/RV has made a determination of "no historic properties affected" in accordance with 36 CFR 800.4(d) (1) and that further studies are not justified for this action. We request your concurrence with our determination of "no historic properties affected" by the proposed action. Your office also will be provided with a copy of the draft EA for further review and comment prior to the issuance of the decision document for this project.

Please contact me at (505)853-7926, or via email at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

*

CONCUR

for ARIZONA STATE HISTORIC PRESERVATION OFFICER
ARIZONA STATE PARKS BOARD

1-15-10

*Contingent upon consultation with AZ Apache tribes, too.

Sincerely,

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Enclosures: Figure 1: Location of Proposed Action

Black, Lyna/RDD

From: Friedrichsen, Kent M Civ USAF AFMC AFRL/RVOI [Kent.Friedrichsen@kirtland.af.mil]
Sent: Wednesday, February 09, 2011 12:14 PM
To: Jarocki, Karen/ABQ
Cc: Gallegos, Michael D Civ USAF AFMC AFRL/RVOI; Black, Lyna/RDD; Renner, Valerie A Civ USAF AFMC 377 MSG/CEANQ
Subject: Santa Ana Pueblo Response

Karen--I received a voice mail response from Gov. Montoya, Santa Ana Pueblo, on the latest letter and SOP that we sent. He stated he "had no problem with the documentation" and provided two POCs for any further discussions. I called him back and left a voice mail and thanked him.

Fred

K. M. Friedrichsen
Senior General Engineer
Space Vehicles Directorate
Air Force Research Laboratory

Rau, Michelle/COS

From: Black, Lyna/RDD
Sent: Tuesday, December 29, 2009 1:54 PM
To: Rau, Michelle/COS
Cc: Petersen, Julie/RDD
Subject: FW: AFRL/RV balloon flights

From: Friedrichsen, Kent M Civ USAF AFMC AFRL/RVOI [mailto:Kent.Friedrichsen@kirtland.af.mil]
Sent: Wednesday, December 23, 2009 10:48 AM
To: Black, Lyna/RDD
Cc: Jarocki, Karen/ABQ; Michael.J.Bone@usace.army.mil
Subject: FW: AFRL/RV balloon flights

I received the first response today. Merry Christmas!

Fred

From: Friedrichsen, Kent M Civ USAF AFMC AFRL/RVOI
Sent: Wednesday, December 23, 2009 11:46 AM
To: 'James Merkel'
Cc: Harry Betz; Rico Garcia; Mona Ayze; Phillip Trujillo
Subject: RE: AFRL/RV balloon flights

Thank you very much, sir, for your timely comments. We will add the appropriate documentation to our Environmental Assessment.

Very Respectfully,

K. M. Friedrichsen
Senior General Engineer
Space Vehicles Directorate
Air Force Research Laboratory

From: James Merkel [mailto:James.Merkel@santaana-nsn.gov]
Sent: Wednesday, December 23, 2009 11:41 AM
To: Friedrichsen, Kent M Civ USAF AFMC AFRL/RVOI
Cc: Harry Betz; Rico Garcia; Mona Ayze; Phillip Trujillo
Subject: RE: AFRL/RV balloon flights

Sir,

Per our conversation on 23 December 09, the following are contact numbers for the Santa Ana Tribal Police:

Office (0800-1630) – 505-771-6730
Chief (0800-1630) – 505-771-6731
After hours (1630 to 0800) – call the Sandoval County Regional Dispatch office – 505-867-2304 and request and officer to meet with you.

Any entry onto the open space lands belonging to the Pueblo of Santa Ana requires contact with the Santa Ana Tribal Police Department. All open space areas are gated and access is limited to existing unimproved roadways. A police escort will be required to prevent possible damage to known and unknown cultural sites located throughout the open space lands.

We look forward to assisting you. Please feel free to contact me if you have further questions.

James Merkel
Patrol / Supply / Asst Intel Officer
Santa Ana Police Department

PD Secretary: (505) 771-6730 - 0800-1630
Office: (505) 771-6784
Email: James.Merkel@santaana-nsn.gov

Rau, Michelle/COS

From: Black, Lyna/RDD
Sent: Friday, January 08, 2010 4:43 PM
To: Rau, Michelle/COS
Cc: Petersen, Julie/RDD
Subject: FW: Scoping for Balloon Launch and Landing Operations, Air Force Research Lab, KAFB, NM

Michelle,
Please add this to the responses.
Thanks!
Lyna

From: Andrews, Michael A [mailto:mandrews@usbr.gov]
Sent: Friday, January 08, 2010 2:22 PM
To: Black, Lyna/RDD
Subject: Scoping for Balloon Launch and Landing Operations, Air Force Research Lab, KAFB, NM

In response to the letter received December 21, 2009 regarding the scoping process for the EA for the subject proposed action, please note that, with respect to balloon recovery operations, regulations found at 43 CFR Part 420 state that all lands administered by the Bureau of Reclamation are closed to off-road vehicle use, except for any areas or trails specifically opened to use of off-road vehicles in accordance with regulations found at 43 CFR Part 420.21. There are currently no designated open areas or trails on Bureau of Reclamation-administered lands in New Mexico.

Thank you for the opportunity to comment.

Mike Andrews
Lead Realty Specialist
Bureau of Reclamation
Albuquerque Area Office
555 Broadway Boulevard NE, Suite 100
Albuquerque, NM 87102
505-462-3604
505-462-3797 FAX

Rau, Michelle/COS

From: Black, Lyna/RDD
Sent: Tuesday, January 05, 2010 6:28 PM
To: Rau, Michelle/COS
Cc: Petersen, Julie/RDD
Subject: FW: Balloon Launch & Landing Operations, Air Force Research Lab, Kirtland AFB

-----Original Message-----
From: Julie_Sharp@nps.gov [mailto:Julie_Sharp@nps.gov]
Sent: Tuesday, January 05, 2010 12:15 PM
To: Black, Lyna/RDD
Cc: Mike_Medrano@nps.gov; Ron_Fields@nps.gov
Subject: Balloon Launch & Landing Operations, Air Force Research Lab, Kirtland AFB

Good Morning Lyna,

Regarding the EA for balloon operations at Kirtland AFB, our environmental compliance folks at Petroglyph National Monument would like to be kept in the loop. Could you please add Mike Medrano and Ron Fields from the park to your list of contacts for this project? Contact info is:

Mike Medrano
Chief, Division of Resource Management
Petroglyph National Monument
6001 Unser Blvd. NW
Albuquerque, NM 87120
(505) 899-0205 x 334
fax: (505) 839-4594
email: Mike_Medrano@nps.gov

Ron Fields
Archeological Technician
(same address & fax)
(505) 899-0205 ext 343
email: Ron_Fields@nps.gov

Thank you!
Julie

~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Julie Sharp
Environmental Protection Assistant/Planning Tech
Intermountain Regional Office
Lakewood, CO
ph 303.987.6705
~~~~~~~~~~~~~~~~~~~~~~~~~~~~

Rau, Michelle/COS

From: Black, Lyna/RDD
Sent: Tuesday, January 05, 2010 6:25 PM
To: Rau, Michelle/COS
Cc: Petersen, Julie/RDD
Subject: FW: Balloon Launch and Landing Operations

Attachments: pic12558.jpg

pic12558.jpg (42 KB)

-----Original Message-----
From: Daniel_J_Jacobs@nps.gov [mailto:Daniel_J_Jacobs@nps.gov]
Sent: Tuesday, January 05, 2010 9:10 AM
To: Black, Lyna/RDD
Subject: Balloon Launch and Landing Operations

Ms. Black-

Please find below my response to the Air Force request for input on sensitive resources located within our area of jurisdiction. This is in regards to the draft EA for balloon launch and landing operations.

(Embedded image moved to file: pic12558.jpg)

Pecos National Historical Park, Pecos, NM is potentially affected by the proposed action. Please avoid the park where possible. Most sensitive areas within the park consist of major cultural resource sites. Although the sensitive resources comprise a small land area within the overall park boundaries, these areas are susceptible to damage from the stated operations.
Requirements for property access: Contact Chief Ranger @ 505-757-7235 for authorization prior to access request date and time. All access will be accompanied and led by a park ranger.

We are also interested in reviewing the draft EA once that is released.

Daniel J. Jacobs
Chief Park Ranger
Pecos National Historical Park
505-757-7235

Rau, Michelle/COS

From: Black, Lyna/RDD
Sent: Friday, January 29, 2010 10:37 AM
To: Rau, Michelle/COS
Subject: FW: Balloon Launch & Landing Ops - Kirtland AFB, NM

Please add.
Thanks!
Lyna

-----Original Message-----
From: Julie_Sharp@nps.gov [mailto:Julie_Sharp@nps.gov]
Sent: Friday, January 29, 2010 9:03 AM
To: Black, Lyna/RDD
Cc: Kim_Struthers@nps.gov
Subject: Balloon Launch & Landing Ops - Kirtland AFB, NM

Good Morning Lyna --

We have another park with an interest in the balloon launch project. Could you please add Kim Struthers to your contact list? Her contact info is:

Kimberly Struthers
Natural Resources Program Manager
Capulin Volcano National Monument
PO Box 40
Des Moines, NM 88418
phone: 575-278-2201 ext. 230
fax: 575-278-2211

Thank you!
Julie

~~~~~~~~~~~~~~~~~~~~~~~~~~~~
Julie Sharp
Environmental Protection Assistant/Planning Tech
Intermountain Regional Office
Lakewood, CO
ph 303.987.6705
~~~~~~~~~~~~~~~~~~~~~~~~~~~~

THE NAVAJO NATION

JOE SHIRLEY, JR.
PRESIDENT

BEN SHELLY
VICE-PRESIDENT

February 24, 2009

Kent M. Friedrichsen, Senior General Engineer
Department of the Air Force
AFRL/RVOI
3550 Aberdeen Ave. SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

Dear Mr. Friedrichsen:

Our apology for an oversight and missing the deadline date of our response to your request, and that the Navajo Nation Historic Preservation Department – Traditional Culture Program (NNHPD-TCP) is in receipt of the proposed project where the US Air Force Research Laboratory, Space Vehicles Directorate is proposing to conduct medium-to high-altitude balloon flights in Arizona, New Mexico, and Texas.

After reviewing your consultation documents, HPD-TCP has concluded the proposed undertaking/project area **will not impact** Navajo traditional cultural properties. The NNHPD-TCP, on behalf of the Navajo Nation has no concerns at this time.

However, the determination made by the HPD-TCP does not necessarily mean that the Navajo Nation has no interest or concerns with the proposed project. If the proposed project inadvertently discovers habitation sites, plant gathering areas, human remains and objects of cultural patrimony the HPD-TCP request that we be notified respectively in accordance with the Native American Graves Protection and Repatriation Act (NAGPRA).

The HPD-TCP appreciates the Department of the Air Force's consultation efforts, pursuant to 36 CFR Pt. 800.1 (c)(2)(iii). Should you have any additional concerns and/or questions, do not hesitate to contact me electronically at tonyjoe@navajo.org or telephone at 928-871-7750. Mr. Kelly Francis will be taking over all Section 106 Consultations soon within the near future.

Sincerely,

Tony H. Joe, Jr., Supervisory Anthropologist *(Section 106 Consultations)*
Historic Preservation Department – Traditional Culture Program

TCP 10-308
CC: Office File/Chrono

Appendix C1
Emission Calculations

Assumptions:

Total Launches Per Year	30	per year	
Round-trip Distance for Each Launching	1,000	miles/vehicle	(assumes travel 10 hours at 50 mph each way)
Additional Round-trip Distance for Recovery Vehicles	1,000	miles/vehicle	(assumes travel 10 hours at 50 mph each way)

	Number of Vehicles	Usage
Crane Launch Vehicle	1	Launch
Helium Trailer	1	Launch
Launch-restraint Vehicle	1	Launch
Semi-truck Trailer	1	Launch
4-wheel-drive Crane	1	Launch and recovery
Flat-bed Truck	1	Launch and recovery
Pickup Truck	1	Launch and recovery
Workers Commute	5	

Truck Emissions

Pollutant	Emission Factor (g/mile)	VMT/Launch	VMT/Recovery	Emissions/Operation (tons)	Emissions (tons/year)
VOC	0.63	6,000	2000	0.006	0.17
NO_x	6.24	6,000	2,000	0.055	1.65
PM_{10}	0.22	6,000	2,000	0.002	0.06
CO	3.21	6,000	2,000	0.028	0.85
SO_2	0.026	6,000	2,000	0.000	0.007
CO_2	1,417.80	6,000	2,000	12.50	375.08

Note:

Truck emission factors were obtained from Mobile6 modeling. Emission factors used in the analysis are for heavy-duty diesel trucks. The modeling year is 2010.

Pickup Truck Emissions

Pollutant	Emission Factor (g/mile)	VMT/Launch	VMT/Recovery	Emissions/Operation (tons)	Emissions (tons/year)
VOC	1.04	1,000	1000	0.002	0.07
NO_x	0.96	1,000	1,000	0.002	0.06
PM_{10}	0.03	1,000	1,000	0.000	0.00
CO	19.67	1,000	1,000	0.043	1.30
SO_2	0.010	1,000	1,000	0.000	0.001
CO_2	514.20	1,000	1,000	1.134	34.01

Note:

Pickup truck emission factors were obtained from Mobile6 modeling. Emission factors used in the analysis are for light-duty gasoline trucks. The modeling year is 2010.

Emissions Due to Worker Trips

Pollutant	Emission Factor (g/mile)	VMT/Operation	Emissions (tons/operation)	Emissions (tons/year)
VOC	0.896	5,000	0.00494	0.1481
NO_x	1.331	5,000	0.00734	0.2201
PM_{10}	0.043	5,000	0.00024	0.0071
CO	17.041	5,000	0.09392	2.8176
SO_2	0.0102	5,000	0.00006	0.0017
CO_2	553.71	5,000	3.05175	91.5526

Note:

Commute vehicle emission factors were obtained from Mobile6 modeling. Emission factors used in the analysis are for the average vehicle fleet. The modeling year is 2010.

Total Emissions

Pollutant	Truck Emissions	Pickup Truck Emissions	Commute Vehicle Emissions	Estimated Annual Emissions (tons/year)
VOC	0.17	0.07	0.148	0.4
NO_x	1.65	0.06	0.220	1.9
PM_{10}	0.06	0.002	0.007	0.1
CO	0.85	1.30	2.818	5.0
SO_2	0.007	0.0006	0.0017	0.009
CO_2	375.08	34.01	91.553	500.6

Notes:
CO = carbon monoxide
CO_2 = carbon dioxide
g/mile = grams per mile
mph = miles per hour
NO_x = nitrogen oxide
PM_{10} = particulate matter with aerodynamic diameter less than 10 micrometers
SO_2 = sulfur dioxide
VMT = vehicle miles traveled
VOC = volatile organic compounds

```
MOBILE6 INPUT FILE :
*This file is for an estimate of HDDT emissions for Albuquerque, NM
*R King 10/08/09

SPREADSHEET        :
POLLUTANTS         : HC CO NOX
PARTICULATES       : SO4 SO2 OCARBON ECARBON GASPM LEAD BRAKE TIRE
RUN DATA
EXPRESS HC AS VOC  :

SCENARIO RECORD    : WINTER 40 mph
CALENDAR YEAR      : 2010
EVALUATION MONTH   : 1
ALTITUDE           : 2
MIN/MAX TEMP       : 22.0 47.0
FUEL RVP           : 14.4
PARTICLE SIZE      : 10
DIESEL SULFUR      : 30
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 40 arterial

SCENARIO RECORD    : SUMMER 40 mph
CALENDAR YEAR      : 2010
EVALUATION MONTH   : 7
ALTITUDE           : 2
MIN/MAX TEMP       : 65.0 93.0
FUEL RVP           : 8
PARTICLE SIZE      : 10
DIESEL SULFUR      : 30
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 40 arterial


END OF RUN
```

Appendix C2
Mobile6 Model Outputs

```
*****************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                                *
* Input file: C:\MOBILE6\MOBILE6\RUN\NEWMEX\ALB2010.IN (file 1, run 1).    *
*****************************************************************************

* # # # # # # # # # # # # # # # # # # # # # # # # # # #
* WINTER 40 mph
* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of 40.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b

* Reading Ammonia (NH3) Basic Emissiion Rates
* from the external data file PMNH3BER.D

* Reading Ammonia (NH3) Sulfur Deterioration Rates
* from the external data file PMNH3SDR.D
  M111 Warning:
               The input dIesel sulfur level of  30.0 ppm exceeds
               the 2007 HDD Rule diesel sulfur limit of 15 ppm.

                    Calendar Year:  2010
                            Month:  Jan.
                         Altitude:  High
               Minimum Temperature:  22.0 (F)
               Maximum Temperature:  47.0 (F)
                 Absolute Humidity:   75. grains/lb
                  Nominal Fuel RVP:  14.4 psi
                     Weathered RVP:  14.4 psi
               Fuel Sulfur Content:   30. ppm

               Exhaust I/M Program:  No
                  Evap I/M Program:  No
                       ATP Program:  No
                  Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Veh
             GVWR:                <6000     >6000     (All)
                     ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.3540    0.3855    0.1315              0.0357    0.0003    0.0019    0.0856    0.0054    1.0000
 -----------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
```

Composite VOC :	0.714	0.868	1.554	1.042	1.046	0.158	0.402	0.630	2.24	0.896
Composite CO :	15.93	17.98	24.63	19.67	23.27	0.739	0.718	3.212	22.89	17.041
Composite NOX :	0.621	0.828	1.332	0.956	2.108	0.366	0.647	6.237	1.15	1.331

* #
* SUMMER 40 mph
* File 1, Run 1, Scenario 2.
* #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV

M583 Warning:
The user supplied arterial average speed of 40.0
will be used for all hours of the day. 100% of VMT
has been assigned to the arterial/collector roadway
type for all hours of the day and all vehicle types.

M 48 Warning:
there are no sales for vehicle class HDGV8b

M111 Warning:
The input dIesel sulfur level of 30.0 ppm exceeds
the 2007 HDD Rule diesel sulfur limit of 15 ppm.

Calendar Year:	2010
Month:	July
Altitude:	High
Minimum Temperature:	65.0 (F)
Maximum Temperature:	93.0 (F)
Absolute Humidity:	75. grains/lb
Nominal Fuel RVP:	8.0 psi
Weathered RVP:	7.6 psi
Fuel Sulfur Content:	30. ppm
Exhaust I/M Program:	No
Evap I/M Program:	No
ATP Program:	No
Reformulated Gas:	No

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.3478	0.3890	0.1336		0.0359	0.0003	0.0020	0.0860	0.0054	1.0000

Composite Emission Factors (g/mi):

Composite VOC :	0.686	0.762	1.326	0.906	1.105	0.155	0.389	0.613	2.82	0.821
Composite CO :	7.70	8.80	12.12	9.65	18.70	0.737	0.698	3.007	23.17	8.780
Composite NOX :	0.547	0.688	1.061	0.783	1.874	0.352	0.613	5.794	0.86	1.171

```
************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                           *
* Input file: C:\MOBILE6\MOBILE6\RUN\NEWMEX\ALB2010.IN (file 1, run 1).   *
************************************************************************

* # # # # # # # # # # # # # # # # # # # # # # #
* WINTER 40 mph
* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # #

                          Calendar Year:  2010
                                 Month:  Jan.
              Gasoline Fuel Sulfur Content:   30. ppm
                Diesel Fuel Sulfur Content:   30. ppm
                      Particle Size Cutoff: 10.00 Microns
                          Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.3540	0.3855	0.1315		0.0357	0.0003	0.0019	0.0856	0.0054	1.0000
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0041	0.0041	0.0045	0.0042	0.0399	------	------	------	0.0205	0.0051
ECARBON:	------	------	------	------	------	0.0416	0.0256	0.1171	------	0.0101
OCARBON:	------	------	------	------	------	0.0117	0.0368	0.0594	------	0.0052
SO4:	0.0002	0.0004	0.0005	0.0004	0.0017	0.0003	0.0006	0.0018	0.0001	0.0005
Total Exhaust PM:	0.0043	0.0045	0.0050	0.0046	0.0416	0.0537	0.0630	0.1783	0.0206	0.0209
Brake:	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125
Tire:	0.0080	0.0080	0.0080	0.0080	0.0087	0.0080	0.0080	0.0259	0.0040	0.0095
Total PM:	0.0249	0.0251	0.0255	0.0252	0.0628	0.0742	0.0835	0.2167	0.0371	0.0430
SO2:	0.0068	0.0088	0.0115	0.0095	0.0166	0.0059	0.0112	0.0264	0.0033	0.0102

```
* # # # # # # # # # # # # # # # # # # # # # # #
* SUMMER 40 mph
* File 1, Run 1, Scenario 2.
* # # # # # # # # # # # # # # # # # # # # # # #

                          Calendar Year:  2010
                                 Month:  July
              Gasoline Fuel Sulfur Content:   30. ppm
                Diesel Fuel Sulfur Content:   30. ppm
                      Particle Size Cutoff: 10.00 Microns
                          Reformulated Gas:  No
```

Vehicle Type: / GVWR:	LDGV	LDGT12 <6000	LDGT34 >6000	LDGT (All)	HDGV	LDDV	LDDT	HDDV	MC	All Veh
VMT Distribution:	0.3478	0.3890	0.1336		0.0359	0.0003	0.0020	0.0860	0.0054	1.0000
Composite Emission Factors (g/mi):										
Lead:	0.0000	0.0000	0.0000	0.0000	0.0000	------	------	------	0.0000	0.0000
GASPM:	0.0041	0.0040	0.0044	0.0041	0.0375	------	------	------	0.0205	0.0050
ECARBON:	------	------	------	------	------	0.0399	0.0240	0.1092	------	0.0094
OCARBON:	------	------	------	------	------	0.0112	0.0345	0.0554	------	0.0048
SO4:	0.0002	0.0004	0.0005	0.0004	0.0017	0.0003	0.0006	0.0018	0.0001	0.0005
Total Exhaust PM:	0.0043	0.0045	0.0049	0.0046	0.0392	0.0514	0.0590	0.1665	0.0206	0.0199
Brake:	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125	0.0125
Tire:	0.0080	0.0080	0.0080	0.0080	0.0087	0.0080	0.0080	0.0259	0.0040	0.0095
Total PM:	0.0248	0.0250	0.0254	0.0251	0.0604	0.0720	0.0796	0.2049	0.0371	0.0419
SO2:	0.0068	0.0088	0.0115	0.0095	0.0166	0.0059	0.0112	0.0264	0.0033	0.0102

```
MOBILE6 INPUT FILE :
*This file is for an estimate of HDDT CO2 emissions for Albuquerque, NM
*R King 10/08/09
*Upated 1/14/10

POLLUTANTS         : CO2
RUN DATA

SCENARIO RECORD    : WINTER 40 mph
CALENDAR YEAR      : 2010
EVALUATION MONTH   : 1
ALTITUDE           : 2
MIN/MAX TEMP       : 22.0 47.0
FUEL RVP           : 14.4
PARTICLE SIZE      : 10
DIESEL SULFUR      : 30
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 40 arterial

SCENARIO RECORD    : SUMMER 40 mph
CALENDAR YEAR      : 2010
EVALUATION MONTH   : 7
ALTITUDE           : 2
MIN/MAX TEMP       : 65.0 93.0
FUEL RVP           : 8
PARTICLE SIZE      : 10
DIESEL SULFUR      : 30
PARTICULATE EF     : PMGZML.CSV PMGDR1.CSV PMGDR2.CSV PMDZML.CSV PMDDR1.CSV PMDDR2.CSV
AVERAGE SPEED      : 40 arterial


END OF RUN
```

```
*****************************************************************************
* MOBILE6.2.03 (24-Sep-2003)                                                *
* Input file: C:\MOBILE6\MOBILE6\RUN\NEWMEX\2010CO2.IN (file 1, run 1).    *
*****************************************************************************

* # # # # # # # # # # # # # # # # # # # # # # # # #
* WINTER 40 mph
* File 1, Run 1, Scenario 1.
* # # # # # # # # # # # # # # # # # # # # # # # # #

* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of 40.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b

                    Calendar Year:  2010
                            Month:  Jan.
                         Altitude:  High
              Minimum Temperature:  22.0 (F)
              Maximum Temperature:  47.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:  14.4 psi
                    Weathered RVP:  14.4 psi
              Fuel Sulfur Content:  300. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No

      Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT       HDGV       LDDV       LDDT       HDDV        MC   All Veh
               GVWR:                <6000     >6000     (All)
                     ------    ------    ------    ------    ------    ------    ------    ------    ------    ------
  VMT Distribution:    0.3540    0.3855    0.1315              0.0357    0.0003    0.0019    0.0856    0.0054    1.0000
Fuel Economy (mpg):      24.1      18.6      14.3      17.3       9.7      32.4      17.1       7.2      50.0      16.5
 ---------------------------------------------------------------------------------------------------------------------
Composite Emission Factors (g/mi):
    Composite CO2 :    368.1     477.6     620.1     513.9     915.3    314.1     596.8    1417.8      177.4    552.32
  ---------------------------------------------------------------------------------------------------------------------

* # # # # # # # # # # # # # # # # # # # # # # # # #
* SUMMER 40 mph
* File 1, Run 1, Scenario 2.
* # # # # # # # # # # # # # # # # # # # # # # # # #
```

```
* Reading PM Gas Carbon ZML Levels
* from the external data file PMGZML.CSV

* Reading PM Gas Carbon DR1 Levels
* from the external data file PMGDR1.CSV

* Reading PM Gas Carbon DR2 Levels
* from the external data file PMGDR2.CSV

* Reading PM Diesel Zero Mile Levels
* from the external data file PMDZML.CSV

* Reading the First PM Deterioration Rates
* from the external data file PMDDR1.CSV

* Reading the Second PM Deterioration Rates
* from the external data file PMDDR2.CSV
  M583 Warning:
            The user supplied arterial average speed of 40.0
            will be used for all hours of the day.  100% of VMT
            has been assigned to the arterial/collector roadway
            type for all hours of the day and all vehicle types.
  M 48 Warning:
              there are no sales for vehicle class HDGV8b

                    Calendar Year:  2010
                            Month:  July
                         Altitude:  High
              Minimum Temperature:  65.0 (F)
              Maximum Temperature:  93.0 (F)
                Absolute Humidity:   75. grains/lb
                 Nominal Fuel RVP:   8.0 psi
                    Weathered RVP:   7.6 psi
              Fuel Sulfur Content:  300. ppm

              Exhaust I/M Program:  No
                 Evap I/M Program:  No
                      ATP Program:  No
                 Reformulated Gas:  No
```

Vehicle Type:	LDGV	LDGT12	LDGT34	LDGT	HDGV	LDDV	LDDT	HDDV	MC	All Veh
GVWR:		<6000	>6000	(All)						
VMT Distribution:	0.3478	0.3890	0.1336		0.0359	0.0003	0.0020	0.0860	0.0054	1.0000
Fuel Economy (mpg):	24.1	18.6	14.3	17.2	9.7	32.4	17.0	7.2	50.0	16.5
Composite Emission Factors (g/mi):										
Composite CO2 :	368.1	477.8	620.5	514.2	914.7	314.1	597.0	1417.1	177.4	553.71

Appendix D
Clean Air Act Conformity Applicability Analysis

APPENDIX D

Clean Air Act Conformity Applicability Analysis for Kirtland Air Force Base Air Force Research Laboratory Balloon Launch and Landing Operations

D.1 Purpose

The U.S. Air Force is required to perform a general conformity applicability analysis to determine whether the balloon launch and landing operations will comply with the U.S. Environmental Protection Agency's (EPA) Final Conformity Rule, 40 *Code of Federal Regulations* (CFR) 93, Subpart B (for federal agencies), and 40 CFR 51, Subpart W (for state requirements), of the amended *Clean Air Act*.

D.2 Background

EPA has issued regulations addressing the applicability and procedures for ensuring that federal activities comply with the amended *Clean Air Act*. The EPA Final Conformity Rule implements Section 176(c) of the *Clean Air Act*, as amended in 42 United States Code 7506(c). This rule was published in the *Federal Register* on 30 November 1993, and took effect on 31 January 1994. In March 2010, EPA revised the Final Conformity Rule, which was published in the *Federal Registry* in April 2010. The revised rule, which took effect in July 2010, improves the process federal entities use to demonstrate that their actions will not contribute to a violation of a national air quality standard. The analysis presented in this appendix follows the revised rule, which requires comparison of project emissions to *de minimis* thresholds. The regional significance analysis is no longer required.

The EPA Final Conformity Rule requires all federal agencies to ensure that any federal action resulting in nonattainment or maintenance criteria pollutant emissions conforms with an approved or promulgated state or federal implementation plan. Conformity means compliance with the purpose of attaining or maintaining the National Ambient Air Quality Standards (NAAQS). Specifically, this means ensuring that the federal action will not: (1) cause a new violation of the NAAQS, (2) contribute to any increase in the frequency or severity of violations of existing NAAQS, or (3) delay the timely attainment of any NAAQS interim or other attainment milestones.

The current General Conformity Rule applies only to federal actions in NAAQS nonattainment or maintenance areas.

D.3 Summary of Air Pollutant Emissions and Regulatory Standards

The proposed balloon launch and landing would be at sites across New Mexico, Arizona, and Texas. The potential launch and landing sites will be located in 33 counties across three states. Bernalillo County in New Mexico is in maintenance for carbon monoxide (CO) and is currently under a limited maintenance plan. Anthony in Doña Ana County, New Mexico, is in nonattainment for particulate matter with aerodynamic diameter less than 10 micrometers (PM_{10}). All other areas are in attainment/unclassified for NAAQS of the criteria pollutants. As a result, CO and PM_{10} emissions are subject to general conformity requirements.

The EPA Final Conformity Rule requires that total direct and indirect emissions of nonattainment and maintenance criteria pollutants, including ozone (O_3) precursors (volatile organic compounds [VOC] and nitrogen oxides [NO_x]), be considered in determining conformity. The rule does not apply to actions where the total direct and indirect emission of nonattainment and maintenance criteria pollutants do not exceed threshold levels for criteria pollutants established in 40 CFR 93.153(b). Consequently, the applicable de minimis level for the Proposed Action is 100 tons per year for emissions of CO and 100 tons per year for PM_{10}. Tables D-1 and D-2 present the de minimis threshold levels of nonattainment and maintenance areas, respectively.

TABLE D-1
De Minimis Thresholds in Nonattainment Areas
Environmental Assessment, Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico – Clean Air Act Conformity Applicability Analysis

Pollutant	Degree of Nonattainment	De Minimis Threshold[a]
O_3 (VOCs and NO_X)	Serious	50
	Severe	25
	Extreme	10
	Other ozone – outside an O_3 transport region	100
O_3 (VOCs)	Marginal and moderate – inside an O_3 transport region	50
O_3 (NO_X)	Marginal and moderate – inside an O_3 transport region	100
CO	All	100
PM_{10}	Moderate	**100**
	Serious	70
$PM_{2.5}$	Direct emissions	100
	NO_X	100
	SO_2	100
	VOC or ammonia	100
SO_2 or NO_2	All	100
Pb	All	25

[a]De minimis thresholds are listed in tons per year. The bold number reflects de minimis threshold used in this analysis.

Source: 40 CFR 93.153(b)

Notes:

Pb = lead
$PM_{2.5}$ = particulate matter with aerodynamic diameter less than 2.5 micrometers
SO_2 = sulfur dioxide
NO_2 = nitrogen dioxide

TABLE D-2
De Minimis Thresholds in Maintenance Areas
Environmental Assessment, Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico – Clean Air Act Conformity Applicability Analysis

Pollutant	Maintenance Area	De Minimis Threshold[a]
O_3 (NO_X)	All	100
O_3 (VOCs)	Inside an O_3 transport region	50
	Outside an O_3 transport region	100
CO	All	**100**
PM_{10}	All	100
$PM_{2.5}$	Direct emissions	100
	NOx	100
	SO_2	100
	VOC or ammonia	100
SO_2 or NO_2	All	100
Pb	All	25

[a]De minimis thresholds are listed in tons per year. The bold number reflects de minimis threshold used in this analysis.

Source: 40 CFR 93.153(b)

If a federal action meets de minimis requirements, detailed conformity analyses are not required pursuant to 40 CFR 93.153(c).

D.4 Emission Calculation Methodologies

D.4.1 Construction Emissions Impacts

No construction actives are needed for the balloon launch and landing.

D.4.2 Operation Emissions Impacts

Operation emissions would occur during preparation for the balloon launch and recovery of the balloon envelope, parachute, payload, and gondola after the landing.

Balloon launches would require the use of a number of vehicles, including a crane launch vehicle, helium trailers, and a launch-restraint vehicle. For the recovery of the balloon and

the associated equipment, vehicles from Kirtland Air Force Base will travel to the landing area and transport the equipments. Emissions are expected to occur as a result of engine exhaust from the vehicle trips. These emissions would primarily consist of CO, NO_x, PM_{10}, $PM_{2.5}$, SO_2, and VOCs.

Emissions of CO and PM_{10} were estimated for the onroad vehicles used for balloon launch and recovery using emission factors from Mobile6. To estimate the worst-case annual emissions, it was conservatively assumed that the vehicles might need to travel for a round trip up to 1,000 miles from Kirtland Air Force Base to the launching site for each operation. Recovery of the equipment might also need each of the recovery vehicles to travel 1,000 miles round trip. Annual emissions of the Proposed Action were estimated on the basis of 30 launches per year starting in 2010.

Fugitive dust emissions from vehicle travel are expected to be minimal because the vehicles would travel on paved roads for the launches. The three vehicles used for recovery of the equipment after balloon landing would also use paved roads whenever possible to avoid the fugitive dust emissions. Occasionally, recovery vehicles might have to travel on unpaved roads. Because of the limited number of vehicles and the minimal miles traveled on unpaved roads, the fugitive dust emissions are not expected to be significant and are not discussed in detail in this analysis.

D.5 Emission Summary and Comparisons to *De Minimis* Thresholds

Table D-3 shows the annual emission increases associated with the Proposed Action and acomparison with the *de minimis* thresholds. CO and PM_{10} emissions during the operation of the Proposed Action are below the de minimis thresholds. On the basis of the conformity applicability criteria, the project conforms to the most recent EPA-approved state implementation plan (SIP); therefore, the project is exempt from the *Clean Air Act* conformity requirements and does not require a detailed conformity demonstration.

TABLE D-3
Proposed Action General Conformity Applicability
Environmental Assessment, Balloon Launch and Landing Operations, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico

	Annual Emissions (ton/year)	
Activity	**CO**	**PM_{10}**
Operation (2010 and beyond)	5.0	0.07
De Minimis Threshold	**100**	**100**

.

Appendix E
Threatened and Endangered Species Lists

U.S. Fish & Wildlife Service

Endangered Species List

Back to Start

List of species by county for Arizona:

Counties Selected: Apache, Navajo

Select one or more counties from the following list to view a county list:

Apache
Cochise
Coconino
Gila
Graham

View County List

Apache County

Common Name	Scientific Name	Species Group	Listing Status	Species Image	Species Distribution Map	Critical Habitat	More Info
Apache trout	*Oncorhynchus apache*	Fishes	T				P
black-footed ferret	*Mustela nigripes*	Mammals	E, EXPN				P
California condor	*Gymnogyps californianus*	Birds	E, EXPN				P
Chiricahua leopard frog	*Rana chiricahuensis*	Amphibians	T				P
gray wolf	*Canis lupus*	Mammals	DR, E, EXPN, T				P
Little Colorado spinedace	*Lepidomeda vittata*	Fishes	T			Final	P
loach minnow	*Tiaroga cobitis*	Fishes	T				P
Mexican spotted owl	*Strix occidentalis lucida*	Birds	T			Final	P
Navajo sedge	*Carex specuicola*	Flowering Plants	T				P
New Mexican meadow jumping mouse	*Zapus hudsonius luteus*	Mammals	C	No Image			P
Northern Mexican gartersnake	*Thamnophis eques megalops*	Reptiles	C	No Image			P
Roundtail chub	*Gila robusta*	Fishes	RT	No Image			P
Roundtail chub	*Gila robusta*	Fishes	RT	No Image			P
southwestern willow flycatcher	*Empidonax traillii extimus*	Birds	E			Final	P
Three Forks		Snails					

Springsnail	*Pyrgulopsis trivialis*		C				P
yellow-billed Cuckoo	*Coccyzus americanus*	Birds	C				P
Zuni bluehead Sucker	*Catostomus discobolus yarrowi*	Fishes	C				P
Zuni fleabane	*Erigeron rhizomatus*	Flowering Plants	T				P

Navajo County

Common Name	Scientific Name	Species Group	Listing Status	Species Image	Species Distribution Map	Critical Habitat	More Info
Apache trout	*Oncorhynchus apache*	Fishes	T				P
black-footed ferret	*Mustela nigripes*	Mammals	E, EXPN				P
California condor	*Gymnogyps californianus*	Birds	E, EXPN				P
Chiricahua leopard frog	*Rana chiricahuensis*	Amphibians	T				P
gray wolf	*Canis lupus*	Mammals	DR, E, EXPN, T				P
Little Colorado spinedace	*Lepidomeda vittata*	Fishes	T			Final	P
loach minnow	*Tiaroga cobitis*	Fishes	T				P
Mexican spotted owl	*Strix occidentalis lucida*	Birds	T			Final	P
Navajo sedge	*Carex specuicola*	Flowering Plants	T				P
Northern Mexican gartersnake	*Thamnophis eques megalops*	Reptiles	C	No Image			P
Peebles Navajo cactus	*Pediocactus peeblesianus peeblesianus*	Flowering Plants	E				P
Roundtail chub	*Gila robusta*	Fishes	RT	No Image			P
Roundtail chub	*Gila robusta*	Fishes	RT	No Image			P
southwestern willow flycatcher	*Empidonax traillii extimus*	Birds	E				P
yellow-billed Cuckoo	*Coccyzus americanus*	Birds	C				P

U.S. Fish & Wildlife Service

Endangered Species List

Back to Start

List of species by county for New Mexico:

Counties Selected: Bernalillo, Catron, Chaves, Cibola, Curry, DeBaca, Dona Ana, Eddy, Guadalupe, Lea, Lincoln, McKinley, Otero, Roosevelt, San Miguel, Santa Fe, Sierra, Socorro, Torrance, Union, Valencia

Select one or more counties from the following list to view a county list:

Bernalillo
Catron
Chaves
Cibola
Colfax

View County List

Bernalillo County

Common Name	Scientific Name	Species Group	Listing Status	Species Image	Species Distribution Map	Critical Habitat	More Info
bald eagle	*Haliaeetus leucocephalus*	Birds	DM				P
black-footed ferret	*Mustela nigripes*	Mammals	E, EXPN				P
Mexican spotted owl	*Strix occidentalis lucida*	Birds	T			Final	P
Rio Grande silvery minnow	*Hybognathus amarus*	Fishes	E			Final	P
southwestern willow flycatcher	*Empidonax traillii extimus*	Birds	E				P
yellow-billed Cuckoo	*Coccyzus americanus*	Birds	C				P

Catron County

Common Name	Scientific Name	Species Group	Listing Status	Species Image	Species Distribution Map	Critical Habitat	More Info
bald eagle	*Haliaeetus leucocephalus*	Birds	DM				P
black-footed ferret	*Mustela nigripes*	Mammals	E, EXPN				P
Chiricahua leopard frog	*Rana chiricahuensis*	Amphibians	T				P
Gila chub	*Gila intermedia*	Fishes	E				P
Gila springsnail	*Pyrgulopsis gilae*	Snails	C	No Image			P
Gila trout	*Oncorhynchus gilae*	Fishes	T				

							P
gray wolf	*Canis lupus*	Mammals	DR, E, EXPN, T				P
least tern	*Sterna antillarum*	Birds	E				P
loach minnow	*Tiaroga cobitis*	Fishes	T				P
Mexican spotted owl	*Strix occidentalis lucida*	Birds	T			Final	P
southwestern willow flycatcher	*Empidonax traillii extimus*	Birds	E				P
spikedace	*Meda fulgida*	Fishes	T			Final	P
yellow-billed Cuckoo	*Coccyzus americanus*	Birds	C				P
Zuni fleabane	*Erigeron rhizomatus*	Flowering Plants	T				P

Chaves County

Common Name	Scientific Name	Species Group	Listing Status	Species Image	Species Distribution Map	Critical Habitat	More Info
bald eagle	*Haliaeetus leucocephalus*	Birds	DM				P
black-footed ferret	*Mustela nigripes*	Mammals	E, EXPN				P
Koster's springsnail	*Juturnia kosteri*	Snails	E				P
Kuenzler hedgehog cactus	*Echinocereus fendleri var. kuenzleri*	Flowering Plants	E				P
least tern	*Sterna antillarum*	Birds	E				P
lesser prairie-chicken	*Tympanuchus pallidicinctus*	Birds	C				P
Mexican spotted owl	*Strix occidentalis lucida*	Birds	T				P
Noel's Amphipod	*Gammarus desperatus*	Crustaceans	E				P
northern aplomado falcon	*Falco femoralis septentrionalis*	Birds	E				P
Pecos (=puzzle, =paradox) sunflower	*Helianthus paradoxus*	Flowering Plants	T			Final	P
Pecos assiminea snail	*Assiminea pecos*	Snails	E				P
Pecos bluntnose shiner	*Notropis simus pecosensis*	Fishes	T			Final	P
Pecos gambusia	*Gambusia nobilis*	Fishes	E				P
Roswell springsnail	*Pyrgulopsis roswellensis*	Snails	E				P
sand dune Lizard	*Sceloporus arenicolus*	Reptiles	C				P
		Clams					

Texas hornshell (mussell)	*Popenaias popei*		C			P

Cibola County

Common Name	Scientific Name	Species Group	Listing Status	Species Image	Species Distribution Map	Critical Habitat	More Info
bald eagle	*Haliaeetus leucocephalus*	Birds	DM				P
black-footed ferret	*Mustela nigripes*	Mammals	E, EXPN				P
Mexican spotted owl	*Strix occidentalis lucida*	Birds	T			Final	P
Pecos (=puzzle, =paradox) sunflower	*Helianthus paradoxus*	Flowering Plants	T			Final	P
southwestern willow flycatcher	*Empidonax traillii extimus*	Birds	E				P
yellow-billed Cuckoo	*Coccyzus americanus*	Birds	C				P
Zuni bluehead Sucker	*Catostomus discobolus yarrowi*	Fishes	C				P
Zuni fleabane	*Erigeron rhizomatus*	Flowering Plants	T				P

Curry County

Common Name	Scientific Name	Species Group	Listing Status	Species Image	Species Distribution Map	Critical Habitat	More Info
bald eagle	*Haliaeetus leucocephalus*	Birds	DM				P
black-footed ferret	*Mustela nigripes*	Mammals	E, EXPN				P
least tern	*Sterna antillarum*	Birds	E				P
lesser prairie-chicken	*Tympanuchus pallidicinctus*	Birds	C				P

DeBaca County

Common Name	Scientific Name	Species Group	Listing Status	Species Image	Species Distribution Map	Critical Habitat	More Info
bald eagle	*Haliaeetus leucocephalus*	Birds	DM				P
black-footed ferret	*Mustela nigripes*	Mammals	E, EXPN				P
least tern	*Sterna antillarum*	Birds	E				P
lesser prairie-chicken	*Tympanuchus pallidicinctus*	Birds	C				P
Pecos bluntnose shiner	*Notropis simus pecosensis*	Fishes	T			Final	P

Dona Ana County

Common Name	Scientific Name	Species Group	Listing Status	Species Image	Species Distribution Map	Critical Habitat	More Info
bald eagle	*Haliaeetus leucocephalus*	Birds	DM				P
least tern	*Sterna antillarum*	Birds	E				P
Mexican spotted owl	*Strix occidentalis lucida*	Birds	T				P
northern aplomado falcon	*Falco femoralis septentrionalis*	Birds	E				P
Rio Grande silvery minnow	*Hybognathus amarus*	Fishes	E				P
Sneed pincushion cactus	*Coryphantha sneedii var. sneedii*	Flowering Plants	E				P
southwestern willow flycatcher	*Empidonax traillii extimus*	Birds	E				P
yellow-billed Cuckoo	*Coccyzus americanus*	Birds	C				P

Eddy County

Common Name	Scientific Name	Species Group	Listing Status	Species Image	Species Distribution Map	Critical Habitat	More Info
bald eagle	*Haliaeetus leucocephalus*	Birds	DM				P
black-footed ferret	*Mustela nigripes*	Mammals	E, EXPN				P
gypsum wild-buckwheat	*Eriogonum gypsophilum*	Flowering Plants	T			Final	P
Kuenzler hedgehog cactus	*Echinocereus fendleri var. kuenzleri*	Flowering Plants	E				P
least tern	*Sterna antillarum*	Birds	E				P
Lee pincushion cactus	*Coryphantha sneedii var. leei*	Flowering Plants	T				P
lesser prairie-chicken	*Tympanuchus pallidicinctus*	Birds	C				P
Mexican spotted owl	*Strix occidentalis lucida*	Birds	T				P
northern aplomado falcon	*Falco femoralis septentrionalis*	Birds	E				P
Pecos bluntnose shiner	*Notropis simus pecosensis*	Fishes	T			Final	P
Pecos gambusia	*Gambusia nobilis*	Fishes	E				P
sand dune Lizard	*Sceloporus arenicolus*	Reptiles	C				P
Sneed pincushion cactus	*Coryphantha sneedii var. sneedii*	Flowering Plants	E				P
southwestern willow flycatcher	*Empidonax traillii extimus*	Birds	E				P
Texas hornshell (mussell)	*Popenaias popei*	Clams	C				P

Guadalupe County

Common Name	Scientific Name	Species Group	Listing Status	Species Image	Species Distribution Map	Critical Habitat	More Info
bald eagle	*Haliaeetus leucocephalus*	Birds	DM				P
black-footed ferret	*Mustela nigripes*	Mammals	E, EXPN				P
lesser prairie-chicken	*Tympanuchus pallidicinctus*	Birds	C				P
Pecos (=puzzle, =paradox) sunflower	*Helianthus paradoxus*	Flowering Plants	T				P
southwestern willow flycatcher	*Empidonax traillii extimus*	Birds	E				P

Lea County

Common Name	Scientific Name	Species Group	Listing Status	Species Image	Species Distribution Map	Critical Habitat	More Info
bald eagle	*Haliaeetus leucocephalus*	Birds	DM				P
black-footed ferret	*Mustela nigripes*	Mammals	E, EXPN				P
lesser prairie-chicken	*Tympanuchus pallidicinctus*	Birds	C				P
northern aplomado falcon	*Falco femoralis septentrionalis*	Birds	E				P
sand dune Lizard	*Sceloporus arenicolus*	Reptiles	C				P

Lincoln County

Common Name	Scientific Name	Species Group	Listing Status	Species Image	Species Distribution Map	Critical Habitat	More Info
bald eagle	*Haliaeetus leucocephalus*	Birds	DM				P
black-footed ferret	*Mustela nigripes*	Mammals	E, EXPN				P
Kuenzler hedgehog cactus	*Echinocereus fendleri var. kuenzleri*	Flowering Plants	E				P
Mexican spotted owl	*Strix occidentalis lucida*	Birds	T			Final	P
northern aplomado falcon	*Falco femoralis septentrionalis*	Birds	E				P
Rio Grande cutthroat trout	*Oncorhynchus clarki virginalis*	Fishes	C				P

McKinley County

Common Name	Scientific Name	Species Group	Listing Status	Species Image	Species Distribution Map	Critical Habitat	More Info
bald eagle	*Haliaeetus leucocephalus*	Birds	DM				P
		Mammals					

black-footed ferret	*Mustela nigripes*		E, EXPN				P
Mexican spotted owl	*Strix occidentalis lucida*	Birds	T			Final	P
southwestern willow flycatcher	*Empidonax traillii extimus*	Birds	E				P
yellow-billed Cuckoo	*Coccyzus americanus*	Birds	C				P
Zuni bluehead Sucker	*Catostomus discobolus yarrowi*	Fishes	C				P
Zuni fleabane	*Erigeron rhizomatus*	Flowering Plants	T				P

Otero County

Common Name	Scientific Name	Species Group	Listing Status	Species Image	Species Distribution Map	Critical Habitat	More Info
bald eagle	*Haliaeetus leucocephalus*	Birds	DM				P
black-footed ferret	*Mustela nigripes*	Mammals	E, EXPN				P
Kuenzler hedgehog cactus	*Echinocereus fendleri var. kuenzleri*	Flowering Plants	E				P
least tern	*Sterna antillarum*	Birds	E				P
Mexican spotted owl	*Strix occidentalis lucida*	Birds	T			Final	P
northern aplomado falcon	*Falco femoralis septentrionalis*	Birds	E				P
Rio Grande cutthroat trout	*Oncorhynchus clarki virginalis*	Fishes	C				P
Sacramento Mountains thistle	*Cirsium vinaceum*	Flowering Plants	T				P
Sacramento prickly poppy	*Argemone pleiacantha ssp. pinnatisecta*	Flowering Plants	E				P
southwestern willow flycatcher	*Empidonax traillii extimus*	Birds	E				P
Todsen's pennyroyal	*Hedeoma todsenii*	Flowering Plants	E				P

Roosevelt County

Common Name	Scientific Name	Species Group	Listing Status	Species Image	Species Distribution Map	Critical Habitat	More Info
bald eagle	*Haliaeetus leucocephalus*	Birds	DM				P
black-footed ferret	*Mustela nigripes*	Mammals	E, EXPN				P
lesser prairie-chicken	*Tympanuchus pallidicinctus*	Birds	C				P
sand dune Lizard	*Sceloporus arenicolus*	Reptiles	C				P

San Miguel County

Common Name	Scientific Name	Species Group	Listing Status	Species Image	Species Distribution Map	Critical Habitat	More Info
Arkansas River shiner	*Notropis girardi*	Fishes	T				P
bald eagle	*Haliaeetus leucocephalus*	Birds	DM				P
black-footed ferret	*Mustela nigripes*	Mammals	E, EXPN				P
Holy Ghost ipomopsis	*Ipomopsis sancti-spiritus*	Flowering Plants	E				P
Mexican spotted owl	*Strix occidentalis lucida*	Birds	T			Final	P
Rio Grande cutthroat trout	*Oncorhynchus clarki virginalis*	Fishes	C				P
southwestern willow flycatcher	*Empidonax traillii extimus*	Birds	E				P
yellow-billed Cuckoo	*Coccyzus americanus*	Birds	C				P

Santa Fe County

Common Name	Scientific Name	Species Group	Listing Status	Species Image	Species Distribution Map	Critical Habitat	More Info
bald eagle	*Haliaeetus leucocephalus*	Birds	DM				P
black-footed ferret	*Mustela nigripes*	Mammals	E, EXPN				P
Mexican spotted owl	*Strix occidentalis lucida*	Birds	T			Final	P
Rio Grande cutthroat trout	*Oncorhynchus clarki virginalis*	Fishes	C				P
Rio Grande silvery minnow	*Hybognathus amarus*	Fishes	E				P
southwestern willow flycatcher	*Empidonax traillii extimus*	Birds	E				P
yellow-billed Cuckoo	*Coccyzus americanus*	Birds	C				P

Sierra County

Common Name	Scientific Name	Species Group	Listing Status	Species Image	Species Distribution Map	Critical Habitat	More Info
bald eagle	*Haliaeetus leucocephalus*	Birds	DM				P
black-footed ferret	*Mustela nigripes*	Mammals	E, EXPN				P
Chiricahua leopard frog	*Rana chiricahuensis*	Amphibians	T				P
Gila trout	*Oncorhynchus gilae*	Fishes	T				P
Mexican spotted owl	*Strix occidentalis lucida*	Birds	T			Final	P
northern aplomado falcon	*Falco femoralis septentrionalis*	Birds	E				P
Rio Grande	*Oncorhynchus clarki*	Fishes					

cutthroat trout	*virginalis*		C				P
Rio Grande silvery minnow	*Hybognathus amarus*	Fishes	E				P
southwestern willow flycatcher	*Empidonax traillii extimus*	Birds	E				P
Todsen's pennyroyal	*Hedeoma todsenii*	Flowering Plants	E			Final	P
yellow-billed Cuckoo	*Coccyzus americanus*	Birds	C				P

Socorro County

Common Name	Scientific Name	Species Group	Listing Status	Species Image	Species Distribution Map	Critical Habitat	More Info
Alamosa springsnail	*Tryonia alamosae*	Snails	E				P
bald eagle	*Haliaeetus leucocephalus*	Birds	DM				P
black-footed ferret	*Mustela nigripes*	Mammals	E, EXPN				P
Chiricahua leopard frog	*Rana chiricahuensis*	Amphibians	T				P
Chupadera springsnail	*Pyrgulopsis chupaderae*	Snails	C	No Image			P
least tern	*Sterna antillarum*	Birds	E				P
Mexican spotted owl	*Strix occidentalis lucida*	Birds	T			Final	P
New Mexican meadow jumping mouse	*Zapus hudsonius luteus*	Mammals	C	No Image			P
northern aplomado falcon	*Falco femoralis septentrionalis*	Birds	E				P
Pecos (=puzzle, =paradox) sunflower	*Helianthus paradoxus*	Flowering Plants	T				P
piping Plover	*Charadrius melodus*	Birds	E, T				P
Rio Grande silvery minnow	*Hybognathus amarus*	Fishes	E			Final	P
Socorro isopod	*Thermosphaeroma thermophilus*	Crustaceans	E				P
Socorro springsnail	*Pyrgulopsis neomexicana*	Snails	E				P
southwestern willow flycatcher	*Empidonax traillii extimus*	Birds	E			Final	P
yellow-billed Cuckoo	*Coccyzus americanus*	Birds	C				P

Torrance County

Common Name	Scientific Name	Species Group	Listing Status	Species Image	Species Distribution Map	Critical Habitat	More Info
bald eagle	*Haliaeetus*	Birds	DM				

	leucocephalus						P
black-footed ferret	*Mustela nigripes*	Mammals	E, EXPN				P
Mexican spotted owl	*Strix occidentalis lucida*	Birds	T			Final	P

Union County

Common Name	Scientific Name	Species Group	Listing Status	Species Image	Species Distribution Map	Critical Habitat	More Info
Arkansas River shiner	*Notropis girardi*	Fishes	T				P
bald eagle	*Haliaeetus leucocephalus*	Birds	DM				P
black-footed ferret	*Mustela nigripes*	Mammals	E, EXPN				P
lesser prairie-chicken	*Tympanuchus pallidicinctus*	Birds	C				P

Valencia County

Common Name	Scientific Name	Species Group	Listing Status	Species Image	Species Distribution Map	Critical Habitat	More Info
bald eagle	*Haliaeetus leucocephalus*	Birds	DM				P
black-footed ferret	*Mustela nigripes*	Mammals	E, EXPN				P
Mexican spotted owl	*Strix occidentalis lucida*	Birds	T			Final	P
Pecos (=puzzle, =paradox) sunflower	*Helianthus paradoxus*	Flowering Plants	T				P
Rio Grande silvery minnow	*Hybognathus amarus*	Fishes	E			Final	P
southwestern willow flycatcher	*Empidonax traillii extimus*	Birds	E			Final	P
yellow-billed Cuckoo	*Coccyzus americanus*	Birds	C				P

U.S. Fish & Wildlife Service

Endangered Species List

Back to Start

List of species by county for Texas:

Counties Selected: Andrews, Dawson, Ector, Gaines, Loving, Lynn, Martin, Terry, Winkler, Yoakum

Select one or more counties from the following list to view a county list:

Anderson
Andrews
Angelina
Aransas
Archer

View County List

Andrews County

Common Name	Scientific Name	Species Group	Listing Status	Species Image	Species Distribution Map	Critical Habitat	More Info
bald eagle	*Haliaeetus leucocephalus*	Birds	DM				P
lesser prairie-chicken	*Tympanuchus pallidicinctus*	Birds	C				P
sand dune Lizard	*Sceloporus arenicolus*	Reptiles	C				P

Dawson County

Common Name	Scientific Name	Species Group	Listing Status	Species Image	Species Distribution Map	Critical Habitat	More Info
bald eagle	*Haliaeetus leucocephalus*	Birds	DM				P
whooping crane	*Grus americana*	Birds	E, EXPN				P

Ector County

Common Name	Scientific Name	Species Group	Listing Status	Species Image	Species Distribution Map	Critical Habitat	More Info
bald eagle	*Haliaeetus leucocephalus*	Birds	DM				P

Gaines County

Common Name	Scientific Name	Species Group	Listing Status	Species Image	Species Distribution Map	Critical Habitat	More Info
	Haliaeetus	Birds					

bald eagle	*leucocephalus*		DM				P
lesser prairie-chicken	*Tympanuchus pallidicinctus*	Birds	C				P
sand dune Lizard	*Sceloporus arenicolus*	Reptiles	C				P

Loving County

Common Name	Scientific Name	Species Group	Listing Status	Species Image	Species Distribution Map	Critical Habitat	More Info
bald eagle	*Haliaeetus leucocephalus*	Birds	DM				P

Lynn County

Common Name	Scientific Name	Species Group	Listing Status	Species Image	Species Distribution Map	Critical Habitat	More Info
bald eagle	*Haliaeetus leucocephalus*	Birds	DM				P
whooping crane	*Grus americana*	Birds	E, EXPN				P

Martin County

Common Name	Scientific Name	Species Group	Listing Status	Species Image	Species Distribution Map	Critical Habitat	More Info
bald eagle	*Haliaeetus leucocephalus*	Birds	DM				P
whooping crane	*Grus americana*	Birds	E, EXPN				P

Terry County

Common Name	Scientific Name	Species Group	Listing Status	Species Image	Species Distribution Map	Critical Habitat	More Info
bald eagle	*Haliaeetus leucocephalus*	Birds	DM				P
lesser prairie-chicken	*Tympanuchus pallidicinctus*	Birds	C				P
whooping crane	*Grus americana*	Birds	E, EXPN				P

Winkler County

Common Name	Scientific Name	Species Group	Listing Status	Species Image	Species Distribution Map	Critical Habitat	More Info
bald eagle	*Haliaeetus leucocephalus*	Birds	DM				P
sand dune Lizard	*Sceloporus arenicolus*	Reptiles	C				P

Yoakum County

Appendix F
Proof of Publication

Affidavit of Publication

Name of Publication:	***Albuquerque Journal***
Address:	**7777 Jefferson NE**
City, State, Zip:	**Albuquerque, New Mexico 87103**
Phone#:	**505-823-7777**
State of:	**New Mexico**
County of:	**Bernalillo**

I Marcella S Montoya, for the publisher of
(Name)

Albuquerque Journal, published in the city of
(Name of Publication)

Albuquerque, State of New Mexico.

Hereby certify that the advertisement for CH2M Hill

was published in said newspaper on the following dates:

Jan. 29, 2012 page A-3

Given under my hand, this 31st day of Jan, 2012

Signature: Marcella S Montoya

Sworn to and subscribed before me this 31 day of January 2012, at Bernalillo, state of New Mexico

Notary Public: Jenny Gomez

My commission expires: 2/18/13

Seal:

OFFICIAL SEAL
Jenny Gomez
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires: 2/18/13

Crowd Welcomes Iraq War Veterans Home

600 Ex-GIs Walk Route in St. Louis

BY JIM SALTER
The Associated Press

ST. LOUIS — Looking around at the tens of thousands of people waving American flags and cheering, Army Maj. Rich Radford was moved that so many braved a cold January wind Saturday in St. Louis to honor people like him: Iraq War veterans.

The parade, borne out of a conversation between two St. Louis friends a month ago, was the nation's first big welcome-home for veterans of the war since the last troops were withdrawn from Iraq in December.

"It's not necessarily overdue, it's just the right thing," said Radford, a 23-year Army veteran who walked in the parade alongside his 8-year-old daughter, Aimee, and 12-year-old son, Warren.

Radford was among about 600 hundred veterans, many dressed in camouflage, who walked along downtown streets lined with rows of people clapping and holding signs with messages including "Welcome Home" and "Thanks to our Service Men and Women." Some of the war-tested troops wiped away tears as they acknowledged the support from a crowd that organizers estimated reached 100,000 people.

Firetrucks with aerial ladders hoisted huge American flags in three different places along the route, with politicians, marching bands — even the Budweiser Clydesdales — joining in. But the large crowd was clearly there to salute men and women in the military, and people cheered wildly as groups of veterans walked by.

JEFF ROBERSON/THE ASSOCIATED PRESS

Parade participants make their way along a downtown street in St. Louis on Saturday. Thousands turned out to watch the first big welcome home parade for veterans of the war in Iraq.

That was the hope of organizers Craig Schneider and Tom Appelbaum. Neither man has served in the military but came up with the idea after noticing there had been little fanfare for returning Iraq War veterans aside from gatherings at airports and military bases. No ticker-tape parades or large public celebrations.

Appelbaum, a lawyer, and Schneider, a school district technical coordinator, decided something needed to be done. So they sought donations, started a Facebook page, met with the mayor and mapped a route. The grassroots effort resulted in a huge turnout despite limited marketing and raising only about $35,000.

That marketing included using a photo of Radford being welcomed home from his second tour in Iraq by his then-6-year-old daughter. The girl had reached up, grabbed his hand and said, "I missed you, Daddy." Radford's sister caught the moment with her cellphone camera, and the image graced T-shirts and posters for the parade.

Veterans came from around the country, and more than 100 entries — including marching bands, motorcycle groups and military units — signed up ahead of the event, Appelbaum said.

Schneider said he was amazed how everyone, from city officials to military organizations to the media, embraced the parade.

"It was an idea that nobody said no to," he said. "America was ready for this."

All that effort by her hometown was especially touching for Gayla Gibson, 38, an Air Force master sergeant who said she spent four months in Iraq — seeing "amputations, broken bones, severe burns from IEDs" — as a medical technician in 2003.

JEFF ROBERSON/THE ASSOCIATED PRESS

Stephanie King holds a picture of her uncle, Col. Stephen Scott, who was killed in Iraq in 2008. King walked in the parade.

"I think it's great when people come out to support those who gave their lives and put their lives on the line for this country," Gibson said.

With 91,000 troops still in Afghanistan, many Iraq veterans could be redeployed — suggesting to some that it's premature to celebrate their homecoming. In New York, for example, Mayor Michael Bloomberg recently said there would be no city parade for Iraq veterans in the foreseeable future because of objections voiced by military officials.

But in St. Louis, there was clearly a mood to thank the troops with something big, even among those opposed to the war.

"Most of us were not in favor of the war in Iraq, but the soldiers who fought did the right thing, and we support them," said Susan Cunningham, 72, who attended the parade with the Missouri Progressive Action Group. "I'm glad the war is over, and I'm glad they're home."

Several veterans of the Vietnam War turned out to show support for the younger troops. Among them was Don Jackson, 63, of Edwardsville, Ill., who said he was thrilled to see the parade honoring Iraq War veterans like his son, Kevin, 33, who joined him at the parade. The Air Force staff sergeant said he'd lost track of how many times he had been deployed to Iraq and Afghanistan as a flying mechanic.

"I hope this snowballs," he said of the parade. "I hope it goes all across the country. I only wish my friends who I served with were here to see this."

Colleges Balk at 'Fuzzy Math' in Obama's Tuition Plan

Leaders Wary Of Funding Threat

BY KIMBERLY HEFLING
The Associated Press

WASHINGTON — Fuzzy math, Illinois State University's president called it. "Political theater of the worst sort," said the University of Washington's head.

President Barack Obama's new plan to force colleges and universities to contain tuition or face losing federal dollars is raising alarm among education leaders who worry about the threat of government overreach. Particularly sharp words came from the presidents of public universities; they're already frustrated by increasing state budget cuts.

The reality, said Illinois State's Al Bowman, is that simple changes cannot easily overcome deficits at many public schools. He said he was happy to hear Obama, in a speech Friday at the University of Michigan, urge state-level support of public universities. But, Bowman said, given the decreases in state aid, tying federal support to tuition prices is a product of fuzzy math.

OBAMA: Said universities must curb tuition hikes

Illinois has lowered public support for higher education by about one-third over the past decade when adjusted for inflation. Illinois State, with 21,000 students, has raised tuition almost 47 percent since 2007, from $6,150 a year for an in-state undergraduate student to $9,030.

"Most people, including the president, assume if universities were simply more efficient they would be able to operate with much smaller state subsidies, and I believe there are certainly efficiency gains that can be realized," Bowman said. "But they pale in comparison to the loss in state support."

Bowman said the undergraduate experience can be made cheaper, but there are trade-offs.

"You could hire mostly part-time, adjunct faculty. You could teach in much larger lecture halls, but the things that would allow you achieve the greatest levels of efficiency would dilute the product and would make it something I wouldn't be willing to be part of," he said.

At Washington, President Mike Young said Obama showed he did not understand how the budgets of public universities work.

Young said the total cost to educate college students in his state, which is paid for by both tuition and state government dollars, has gone down because of efficiencies on campus. While universities are tightening costs, the state is cutting their subsidies and authorizing tuition increases to make up for the loss.

"They really should know better," Young said. "This really is political theater of the worst sort."

Obama's plan would need approval by Congress, a hard sell in an atmosphere of partisan gridlock.

In his State of the Union address Tuesday, Obama described meeting with university presidents who explained how some schools curtailed costs through technology and redesigning courses to help students finish more quickly. He said more schools need to take such steps.

Obama said at Michigan that higher education has become an imperative for success in America, but the cost has grown unrealistic for too many families and the debt burden unbearable. He said states should properly fund colleges and universities.

"We are putting colleges on notice," Obama told an arena packed with cheering students. "You can't assume that you'll just jack up tuition every single year. If you can't stop tuition from going up, then the funding you get from taxpayers each year will go down."

Obama is targeting only a small part of the financial aid picture: the $3 billion known as campus-based aid that flows through college administrators to students. He is proposing to increase that amount to $10 billion and change how it is distributed to reward schools that hold down costs and ensure that more poor students complete their education.

NEWS SHOWS

Lineup for today's TV news shows:

PBS's "New Mexico in Focus" (KNME Channel 5, 7 a.m.) — Efforts to reform the Public Regulation Commission; competing efforts to reform the state's tax structure.

CNN's "State of the Union" (7 a.m.) — Presidential candidate Ron Paul; Sen. Mitch McConnell, R-Ky.; Gov. Rick Scott, R-Fla.; Los Angeles Mayor Antonio Villaraigosa; former Commerce Secretary Carlos Guttierez.

PBS's "Report From Santa Fe" (KNME Channel 5, 8 a.m.) — Sens. Sander Rue, R-Albuquerque, and Peter Wirth, D-Santa Fe, will discuss fairness and equity of the state's tax code and leveling the playing field for taxation of the state's businesses; affirm the need for open government; and analyze the effect of "Citizens United" on New Mexico.

"Fox News Sunday" (KASA Channel 2, 8 a.m.) — Presidential candidate Newt Gingrich; Rep. Paul Ryan, R-Wis.

NBC's "Meet the Press" (KOB Channel 4, 9 a.m.) — Presidential candidate Rick Santorum; David Axelrod, political adviser to President Barack Obama's re-election campaign; Sen. John McCain, R-Ariz.; former Sen. Fred Thompson, R-Tenn.

ABC's "This Week" (KOAT Channel 7, 9 a.m.) — Presidential candidate Newt Gingrich; House Speaker John Boehner, R-Ohio.

CBS's "Face the Nation" (KRQE Channel 13, 9:30 a.m.) — Reince Priebus, chairman of the Republican National Committee; Florida Rep. Debbie Wasserman Schultz, head of the Democratic National Committee; Rep. Michele Bachmann, R-Minn.; Donald Trump; Reps. Allen West and Mario Diaz-Balart, R-Fla.

Public Notice
The U.S. Department of Energy announces Public Scoping Meeting for the Surplus Plutonium Disposition Supplemental Environmental Impact Statement

Pojoaque, New Mexico, February 2, 2012
Cities of Gold Hotel
10-A Cities of Gold Road, Pojoaque, NM

Scoping meeting will begin at **5:30 p.m.** with a 1-hour **Open House** during which the public may sign-up to give oral comments, obtain information materials, and speak informally with technical staff and Department of Energy (DOE) officials. **At 6:30 p.m.,** DOE will give a brief presentation on the Surplus Plutonium Disposition Supplemental Environmental Impact Statement (SPD Supplemental EIS). After the presentation, meeting participants will be invited to provide their comments on the scope of the SPD Supplemental EIS. All comments will be recorded by a court reporter. The meeting is scheduled to end at **8:00 p.m.**

Written comments may also be submitted at the scoping meeting or by:

U.S. MAIL: Sachiko McAlhany, SPD Supplemental EIS Document Manager, P.O. Box 2324, Germantown, MD 20874-2324

TOLL-FREE FAX: 1-877-865-0277

EMAIL: spdsupplementaleis@saic.com

The scoping period extends through **March 12, 2012**. Comments received after that date will be considered to the extent practicable. Both oral and written comments received during the scoping period will be given equal consideration in defining the scope of the SPD Supplemental EIS. For more information on the SPD Supplemental EIS visit www.nnsa.energy.gov/nepa/spdsupplementaleis.

If you require special accommodations to attend a meeting, call the toll-free voicemail number at 1-877-344-0513 and leave a message identifying the accommodations you need. Please include your contact information so that we may call you regarding your request. You may also send an email to the address shown above.

PUBLIC NOTICE
BALLOON LAUNCH AND LANDING OPERATIONS
AIR FORCE RESEARCH LABORATORY,
KIRTLAND AIR FORCE BASE

The Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV), Kirtland Air Force Base, has prepared an Environmental Assessment (EA) and draft Finding of No Significant Impact (FONSI) for BALLOON LAUNCH AND LANDING OPERATIONS.

THE ASSESSMENT EVALUATES THE POTENTIAL IMPACTS ASSOCIATED WITH APPROXIMATELY 30 BALLOON LAUNCH AND LANDING OPERATIONS PER YEAR. THE PROJECT WOULD OCCURR IN SEVERAL COUNTIES IN NEW MEXICO, ARIZONA, AND TEXAS.

The EA indicates that the proposed action would not have a significant impact on the quality of the human environment. The EA and FONSI are open for public review and comment. These documents are available at CNMCC Montoya Campus, 4700 Morris NE, Albuquerque NM 87102; KAFB Library, Bldg 20204, Kirtland AFB NM 87117; and on the Kirtland web site, http://www.kirtland.af.mil/environment.asp In Arizona the documents are available at Flagstaff City Public Library, 300 W. Aspen Ave., Flagstaff, AZ, 86001; and in Texas at Ector County Library, 321 W. 5th St., Odessa, TX 79761. The comment period ends February 28, 2012.

For additional information or to make comments, contact: National Environmental Policy Act Program Manager, 377 MSG/CEANQ, 2050 Wyoming Blvd SE, Suite 125, Kirtland AFB, NM 87117-5270 or email NEPA@kirtland.af.mil

From:	Marcella Montoya
To:	Cotter, Elaine/ABQ
Subject:	FW: JS-20120129-PG003-A003-FINAL.PDF
Date:	Tuesday, January 31, 2012 11:44:16 AM
Attachments:	JS-20120129-PG003-A003-FINAL.PDF Scan00021.pdf

Morning Elaine,
Please find attached per your request affidavit and e tear sheet please feel free to call or email if I can be of further assistance.
Thank you,

Marcella S. Montoya, Account Representative
The Albuquerque Journal
7777 Jefferson Street NE ~ Albuquerque NM 87109
Direct: 505-823-3324 Fax: 505-823-3369
E-Mail: mmontoya@abqpubco.com

-----Original Message-----
From: Retail Ads [mailto:retail@abqpubco.com]
Sent: Tuesday, January 31, 2012 10:06 AM
To: Marcella Montoya
Subject: JS-20120129-PG003-A003-FINAL.PDF

AFFIDAVIT/PROOF OF PUBLICATION

STATE OF ARIZONA

} ss.

County of Coconino

Bobbie Crosby being duly sworn, deposes and says:

That she is the legal clerk of the Arizona Daily Sun

a newspaper published at Flagstaff, Coconino County, Arizona; that the

Public Notice

a copy of which is

hereunto attached, was first published in said newspaper in its issue dated

the 29 day of January, 2012, and was

published in each one issue of said newspaper for one

consecutive day the last publication being in the issue dated the

29 day of January, 2012

Subscribed and sworn to before me this

13 day of February, 2012

Stephanie L Kremple

Notary Public

OFFICIAL SEAL
STEPHANIE L. KREMPLE
Notary Public - State of Arizona
COCONINO COUNTY
My Commission Expires July 27 2015

My Commission expires July 27, 2015

who, when elected, will be the first Native American woman in Congress and the first Native American from Arizona. She is running in Congressional District 1 on a progressive, inclusive platform that addresses these issues. The synergy between

To the editor:

The Property Maintenance Ordinance (PMO) under discussion by the City Council is an ironic approach to the affordable housing problem. If I understood the Daily Sun story on the same subject, one of the purposes behind

Second, the fact that a fine is the main means of enforcement is also ironic. A person who cannot afford to paint their home will be fined, which I am assuming is supposed to encourage them to fix it. However, if the main reason why someone didn't maintain the exterior of their home is because they could not afford to, then a fine is counterproductive.

I am struck by how easy it is to encourage people to do something by making it more expensive. Perhaps the city is trying to make Flagstaff more affordable by discouraging people from living here. I think candidates for mayor and City Council should take note of this new approach.

MICHAEL VOGLER
Flagstaff

PUBLIC NOTICE
BALLOON LAUNCH AND LANDING OPERATIONS
AIR FORCE RESEARCH LABORATORY,
KIRTLAND AIR FORCE BASE

The Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV), Kirtland Air Force Base, has prepared an Environmental Assessment (EA) and draft Finding of No Significant Impact (FONSI) for BALLOON LAUNCH AND LANDING OPERATIONS.

THE ASSESSMENT EVALUATES THE POTENTIAL IMPACTS ASSOCIATED WITH APPROXIMATELY 30 BALLOON LAUNCH AND LANDING OPERATIONS PER YEAR. THE PROJECT WOULD OCCURR IN SEVERAL COUNTIES IN NEW MEXICO, ARIZONA, AND TEXAS.

The EA indicates that the proposed action would not have a significant impact on the quality of the human environment. The EA and FONSI are open for public review and comment. These documents are available at CNMCC Montoya Campus, 4700 Morris NE, Albuquerque NM 87102; KAFB Library, Bldg 20204, Kirtland AFB NM 87117; and on the Kirtland web site, http://www.kirtland.af.mil/environment.asp In Arizona the documents are available at Flagstaff City Public Library, 300 W. Aspen Ave., Flagstaff, AZ, 86001; and in Texas at Ector County Library, 321 W. 5th St., Odessa, TX 79761. The comment period ends February 28, 2012.

For additional information or to make comments, contact: National Environmental Policy Act Program Manager, 377 MSG/CEANQ, 2050 Wyoming Blvd SE, Suite 125, Kirtland AFB, NM 87117-5270 or email NEPA@kirtland.af.mil

BRUNDIGE BAKER

from Page A4

He whispered to the librarian that he was not needed in modern facilities that had new technology to do most of the work in a mechanized, robotic way that did not need a human touch. It was even cheaper and easier on the business owner to just flick a switch than to spend time in hiring, e-verifying and supervising a human being, even if this was his way to make a living and stay a viable member of our community.

Where have all the jobs gone? Gone to machines, everyone.

RICHMOND BOWMAN

from Page A4

Where others continue to fail, she is a constant reminder that we can all do better.

We can only hope that the redistricting efforts across the country and the frustration of the electorate will move things in a more thoughtful direction, electing those who care less about labels than substance, less about party than the people. We can only hope that the future will show us more of the values epitomized by Gabby Giffords, both as an honor to her and a service to our country.

From: Cotter, Elaine/ABQ
To: Cotter, Elaine/ABQ
Cc: Jarocki, Karen/ABQ
Subject: CH Express package confirmation
Date: Friday, January 27, 2012 9:24:33 PM

Package Confirmation

ELAINE COTTER :

Your shipping request for tracking number **797988958818** was delivered on **1/27/2012 10:38:00 AM** to **Shipping/Receiving** and received by **M.NELSON**.

Package Detail

Ship To: Kristy Holland
Flagstaff City Public Library
300 W. Aspen Avenue
Flagstaff, AZ 86001
Phone: (928) 779-7670
Fax:
Email:

Ship Date: 1/26/2012

Service Type: FedEx Standard Overnight
PackageType: FedEx Box
Weight: 1.5 LBS
Payment Type: Bill Project: 396366.01.03.04 (INC)

Email Notification:

Email 1: karen.jarocki@ch2m.com
Email Message: Contract W912PP-09-D-0016 TO 0001. Binder of the Draft EA for AFRL Balloon Launch and Landing Ops with a copy of the Public Notice and trans ltr.

PUBLIC NOTICE

BALLOON LAUNCH AND LANDING OPERATIONS AIR FORCE RESEARCH LABORATORY, KIRTLAND AIR FORCE BASE

he Air Force Research Laboratory, Space Vehicles Directorate AFRL/RV), Kirtland Air Force Base, has prepared an Environmental ssessment (EA) and draft Finding of No Significant Impact (FONSI) or BALLOON LAUNCH AND LANDING OPERATIONS.

HE ASSESSMENT EVALUATES THE POTENTIAL IMPACTS ASSO-IATED WITH APPROXIMATELY 30 BALLOON LAUNCH AND LAND-NG OPERATIONS PER YEAR. THE PROJECT WOULD OCCUR IN EVERAL COUNTIES IN NEW MEXICO, ARIZONA, AND TEXAS.

he EA indicates that the proposed action would not have a signifi-ant impact on the quality of the human environment. The EA and ONSI are open for public review and comment. These documents re available at CNMCC Montoya Campus, 4700 Morris NE, Albu-uerque NM 87102; KAFB Library, Bldg. 20204, Kirkland AFB NM 7117; and on the Kirtland web site, http://www.kirtland.af.mil.envi-onment.asp In Arizona the documents are available at Flagstaff City ublic Library, 300 W. Aspen Ave., Flagstaff, AZ, 86001; and in Texas t Ector County Library, 321 W. 5th St., Odessa, TX 79761. The com-ent period ends February 28, 2012.

or additional information or to make comments, contact: National En-ironmental Policy Act Program Manager, 377 MSG/CEANQ, 2050 Wyoming Blvd SE, Suite 125, Kirtland AFB, NM 87117-5270 or email EPA@kirtland.af.mil

AFFIDAVIT

CH2M HILL

Balloon Launch

THE STATE OF TEXAS
COUNTY OF ECTOR

Before me, the undersigned, a Notary Public in and for said County, State of Texas, on this day personally appeared

Elisa Cemental

to me well known, and who, after being by me duly sworn, deposes and says that he is the **Legal Notice Clerk** of THE ODESSA AMERICAN, a newspaper published in Ector County, Texas; that a copy of the within and foregoing

Legal Notice

was published in said newspaper

1 time (s)

and the publication was at least _____ days before the return day hereof, said publication dates being as follows, to wit:

On the 29 day of **January** 20 12
On the _____ day of _____ 20 ____
On the _____ day of _____ 20 ____
On the _____ day of _____ 20 ____

and a newspaper copy of which is hereto attached. Elisa Cemental

Sworn to and subscribed before me this 09 day of **February** 20 12

BEATRIZ DEL BOSQUE
NOTARY PUBLIC
State of Texas
Comm. Exp. 11-03-2015

My commission expires 11-03-2015

Beatriz Del Bosque
Notary Public in and for Ector County

Publisher's Fees $ _____

LATHAM PRINTING CO. - 333-1292

From:	Cotter, Elaine/ABQ
To:	Cotter, Elaine/ABQ
Cc:	Jarocki, Karen/ABQ
Subject:	CH Express package confirmation
Date:	Friday, January 27, 2012 9:24:32 PM

Package Confirmation

ELAINE COTTER :

Your shipping request for tracking number **793158487409** was delivered on **1/27/2012 11:06:00 AM** to **Receptionist/Front Desk** and received by **J.HENRY**.

Package Detail

Ship To: Doris Baker
Ector County Library
321 W. 5th Street
Odessa, TX 79761
Phone: (432) 332-0633
Fax:
Email:

Ship Date: 1/26/2012

Service Type: FedEx Standard Overnight
PackageType: FedEx Box
Weight: 1.5 LBS
Payment Type: Bill Project: 396366.01.03.04 (INC)

Email Notification:

Email 1: karen.jarocki@ch2m.com
Email Message: Contract W912PP-09-D-0016 TO 0001. Binder of the Draft EA for AFRL Balloon Launch and Landing Ops with a copy of the Public Notice and trans ltr.

Appendix G
Public Comments

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

30 January 2012

Kent M. Friedrichsen
AFRL, Infrastructure Management
3550 Aberdeen Ave. SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

Executive Director and SHPO Mark Wolfe
Texas Historical Commission
P.O. Box 12276
Austin, TX 78701

Dear Executive Director and SHPO Mark Wolfe

The Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV), Kirtland Air Force Base (KAFB), has prepared a Draft Environmental Assessment (EA) addressing balloon launch and landing operations. The AFRL/RV proposes to conduct approximately 30 balloon operations per year to perform research and development on equipment and technology in the stratosphere. The Proposed Action would support programs critical to long-term defense and military readiness of the United States. The environmental impact analysis process for this proposal is being conducted in accordance with Council on Environmental Quality regulations pursuant to the National Environmental Policy Act (NEPA) of 1969.

In accordance with Executive Order 12372, Intergovernmental Review of Federal Programs, I request your participation by reviewing the Draft EA and solicit your comments concerning the proposal and any potential environmental concerns you may have. Copies of the Draft EA and the proposed Finding Of No Significant Impact are available at http://www.kirtland.af.mil under the environmental issues tab. The documents are also available at CNMCC Montoya Campus, 4700 Morris NE, Albuquerque NM 87102; KAFB Library, Bldg 20204, Kirtland AFB NM 87117; Flagstaff City Public Library, 300 W. Aspen Ave., Flagstaff, AZ, 86001; and in Texas at Ector County Library, 321 W. 5th St., Odessa, TX 79761. Please provide written comments on the Draft EA or other information regarding the action at your earliest convenience but no later than 30 days from the receipt of this letter. Section 6/Appendix A of the Draft EA contains a listing of those Federal, state, and local agencies that have been contacted. If there are any additional agencies that you feel should review and comment on the proposed activities, please include them in your distribution of this letter.

Please address questions or comments on this proposed action to the NEPA Program Manager, 377 MSG/CEANQ, 2050 Wyoming Boulevard SE, Suite 125, KAFB, NM 87117, or via email to nepa@kirtland.af.mil.

CONCUR
by William A. Martin
for Mark Wolfe
State Historic Preservation Officer
Date 2/21/12
Track# 20120694

Sincerely

K M Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer

SHPO-2009-1875(98725)

GC

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

30 January 2012

Kent M. Friedrichsen
AFRL, Infrastructure Management
3550 Aberdeen Ave. SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SHPO James Garrison
Arizona SHPO
Arizona State Parks, 1300 W. Washington Street
Phoenix, AZ 85007

Dear SHPO James Garrison

The Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV), Kirtland Air Force Base (KAFB), has prepared a Draft Environmental Assessment (EA) addressing balloon launch and landing operations. The AFRL/RV proposes to conduct approximately 30 balloon operations per year to perform research and development on equipment and technology in the stratosphere. The Proposed Action would support programs critical to long-term defense and military readiness of the United States. The environmental impact analysis process for this proposal is being conducted in accordance with Council on Environmental Quality regulations pursuant to the National Environmental Policy Act (NEPA) of 1969.

In accordance with Executive Order 12372, Intergovernmental Review of Federal Programs, I request your participation by reviewing the Draft EA and solicit your comments concerning the proposal and any potential environmental concerns you may have. Copies of the Draft EA and the proposed Finding Of No Significant Impact are available at http://www.kirtland.af.mil under the environmental issues tab. The documents are also available at CNMCC Montoya Campus, 4700 Morris NE, Albuquerque NM 87102; KAFB Library, Bldg 20204, Kirtland AFB NM 87117; Flagstaff City Public Library, 300 W. Aspen Ave., Flagstaff, AZ, 86001; and in Texas at Ector County Library, 321 W. 5th St., Odessa, TX 79761. Please provide written comments on the Draft EA or other information regarding the action at your earliest convenience but no later than 30 days from the receipt of this letter. Section 6/Appendix A of the Draft EA contains a listing of those Federal, state, and local agencies that have been contacted. If there are any additional agencies that you feel should review and comment on the proposed activities, please include them in your distribution of this letter.

Please address questions or comments on this proposed action to the NEPA Program Manager, 377 MSG/CEANQ, 2050 Wyoming Boulevard SE, Suite 125, KAFB, NM 87117, or via email to nepa@kirtland.af.mil.

We look forward to reviewing your Section 106 consultation with our office and the Tribes.
Thank you, Ann C. Howard for AZSHPO 2/27/12

Sincerely

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer

USDA United States Department of Agriculture | Forest Service | Cibola National Forest and National Grasslands | 2113 Osuna Road NE Albuquerque, NM 87113-1001 (505) 346-3900 FAX: 346-3901

File Code: 1950
Date: February 6, 2012

NEPA Program Manager
377 MSG/CEANQ
2050 Wyoming Boulevard SE
Suite 125
Kirtland AFB, NM 87117

Dear NEPA Program Manager:

My staff has reviewed the Environmental Assessment (EA), Balloon Launch and Landing Operations as you requested. Based on the mapping of exclusion zones in Figure 2-2, the agency and landowner procedures described in section 2.6, and the analysis disclosed in the EA, I have determined that the operations have limited potential to affect the Cibola National Forest and the Kiowa National Grasslands. I have no further comment on the EA.

Please direct any NEPA-related questions to Keith Baker at the address above or by phone at 505-346-3820. Questions related to operational coordination procedures can be addressed to Donald Hall, also in the Supervisor's Office, at phone number 505-346-3835.

Sincerely,

Nancy Rose

NANCY ROSE
Forest Supervisor

STATE OF NEW MEXICO
DEPARTMENT OF CULTURAL AFFAIRS
HISTORIC PRESERVATION DIVISION

BATAAN MEMORIAL BUILDING
407 GALISTEO STREET, SUITE 236
SANTA FE, NEW MEXICO 87501
PHONE (505) 827-6320 FAX (505) 827-6338

February 8, 2012

Kent M. Freidrichsen
AFRL, Infrastructure Management
3550 Aberdeen Ave. SE, Bldg. 462
Kirtland AFB, New Mexico 87117-5776

Dear Mr. Friedrichsen,

On behalf of the New Mexico State Historic Preservation Officer (NM SHPO) I have reviewed the Draft Finding of No Significant Impact: Balloon Launch and Landing Sites Kirtland Air Force Base, New Mexico (FONSI) (HPD log 93829). This letter addresses the NM SHPO's comments concerning the FONSI.

The NM SHPO believes that the undertaking as described in the draft EA is unlikely to have an adverse effect on historic properties in the project APE. However, the implementation of the Standard Operating Procedure for the Protection of Historic Properties (SOP) is problematic for several reasons and inconsistent with the compliance process described in Section 106 of the National Historic Preservation Act and the regulations found in 36 CFR 800.

I discussed the project and SOP with Valerie Renner in a telephone call early last year and suggested that the SOP be modified or omitted from the EA for the following reasons. First, the locations of archaeological sites are confidential under the New Mexico Cultural Properties Act (NMSA 18-6-1 NMSA) and this information must not be distributed to balloon recovery teams prior to flight or recovery operations.

Second, there are over 170,000 archaeological sites already identified within New Mexico. Less than 20 percent of the state has been surveyed for cultural resources and an unknown number of historic properties in the state remain unidentified. We think, therefore, that the recovery operations are likely to fall within a mile from an archaeological site. We also believe that the recovery vehicles in pursuit of the balloons are more likely to have an adverse effect to a historic property than the balloon envelope or its payload. So the sub-area of potential effect (SAPE) should include all paths of off road travel as well as the points where the payload and balloon come to rest.

Third, balloon technicians are unlikely to meet the Secretary of Interior's standards for personnel who are qualified to conduct archaeological investigations, which includes the identification of previously unrecorded sites. For example, archaeological investigation permits are issued by each National Forest in New Mexico and in Arizona, for each of

five cultural regions in New Mexico that are managed by the Bureau of Land Management, by the Bureau of Indian Affairs, and by the Navajo Nation. In addition, archaeological investigations on land owned, operated, or managed by the state or a political subdivision of the state are conducted under permits issued by the New Mexico Cultural Property Review Committee pursuant to state regulations (4.10.8 NMAC). Therefore, an archaeologist with all the necessary permits will need to survey the off road paths taken by the recovery vehicles in order to identify any historic properties that may have been adversely affected during recovery operations.

Last, the implementation of the SOP will require a Programmatic Agreement (PA) between KAFB, the NM SHPO, the tribes, and federal and state agencies who have the right and responsibility to manage cultural resources on lands under their respective jurisdiction. The PA will allow for deferred identification and evaluation of historic properties, assessment of effects, and resolution of adverse effects as described in the SOP per federal regulation 36 CFR 800.4). Please note that FONSIs cannot be signed until Section 106 consultation is complete or an agreement document is signed.

Due to the complexity of the issues related to balloon recovery operations, we anticipate additional consultation to reach a solution that is satisfactory to all parties. If you have any questions or comments feel free to call me directly at (505) 827-4225 or email me at bob.estes @state.nm.us.

Bob Estes

Bob Estes
Historic Preservation Division
Bataan Memorial Building
407 Galisteo Street
Suite 236
Santa Fe, NM 87501

GOVERNOR
Susana Martinez

DIRECTOR AND SECRETARY
TO THE COMMISSION
James S. Lane, Jr.

STATE OF NEW MEXICO
DEPARTMENT OF GAME & FISH

One Wildlife Way
Santa Fe, NM 87507
Post Office Box 25112
Santa Fe, NM 87504
Phone: (505) 476-8008
Fax: (505) 476-8124

Visit our website at www.wildlife.state.nm.us
For information call: (505) 476-8000
To order free publications call: (800) 862-9310

STATE GAME COMMISSION

JIM McCLINTIC
Chairman
Albuquerque, NM

THOMAS "DICK" SALOPEK
Vice-Chairman
Las Cruces, NM

DR. TOM ARVAS
Albuquerque, NM

SCOTT BIDEGAIN
Tucumcari, NM

ROBERT ESPINOZA, SR.
Farmington, NM

ROBERT V. HOFFMAN
Las Cruces, NM

BILL MONTOYA
Alto, NM

February 9, 2012

NEPA Program Manager
377 MSG/CEANQ
250 Wyoming Blvd. SE, Suite 125
KAFB NM 87117

Re: Balloon Launch and Landing Operations Environmental Assessment
NMGF No. 14895

Dear Sirs:

The Department of Game and Fish has reviewed the draft environmental assessment for the above referenced project. The Department does not anticipate significant impacts to wildlife or sensitive habitats from implementation of this project.

For more information on listed and other species of concern, contact the following sources:

1. BISON-M Species Accounts, Searches, and County lists: http://www.bison-m.org
2. Habitat Handbook Project Guidelines: http://wildlife.state.nm.us/conservation/habitat_handbook/index.htm
3. For custom, site-specific database searches on plants and wildlife, go to http://nhnm.unm.edu, then go to Data, then to Free On-Line Data, and follow the directions
4. New Mexico State Forestry Division (505-476-3334) or http://nmrareplants.unm.edu/index.html for state-listed plants
5. For the most current listing of federally listed species **always** check the U.S. Fish and Wildlife Service at (505-346-2525) or http://www.fws.gov/southwest/es/NewMexico/SBC.cfm.

We appreciate the opportunity to review and comment on this project. Should you have any questions regarding these comments, please contact Mark Watson, Habitat Specialist, at (505) 476-8115 or mark.watson@state.nm.us

Sincerely,

Kenneth K. Cunningham
Assistant Chief, Technical Guidance Section
Conservation Services Division

KKC/mw

xc: USFWS NMES Field Office
Brian Gleadle, NW Area Operations Chief, NMDGF
Ellen Heilhecker, NW Area Habitat Specialist, NMDGF

Jarocki, Karen/ABQ

From: 377 MSG/CEAN NEPA Environmental Assessment [NEPA@kirtland.af.mil]
Sent: Tuesday, March 06, 2012 9:38 AM
To: Friedrichsen, Kent M Civ USAF AFMC AFRL/RVOI; Jarocki, Karen/ABQ
Subject: FW: NO COMMENT: DEC-12/0017, Balloon Launch and Landing Operations, Air Force Research Laboratory, Space Vehicles Directorate, Kirtland Air Force Base, New Mexico
Signed By: joshua.adkins@kirtland.af.mil

FYI

-----Original Message-----
From: Crystal_Salas@nps.gov [mailto:Crystal_Salas@nps.gov] On Behalf Of IMRextrev@nps.gov
Sent: Tuesday, February 28, 2012 3:39 PM
To: 377 MSG/CEAN NEPA Environmental Assessment
Cc: waso_eqd_extrev@nps.gov; stephen_spencer@ios.doi.gov
Subject: NO COMMENT: DEC-12/0017, Balloon Launch and Landing Operations, Air Force Research Laboratory, Space Vehicles Directorate, Kirtland Air Force Base, New Mexico

To Whom It May Concern,

The NPS has no comment on the subject project.

Thank you.

- Crystal Salas

_____
Environmental Quality External Review Team
National Park Service
Intermountain Region (AZ, CO, NM, MT, OK, TX, UT, WY)
IMRextrev@nps.gov

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

4 April 2012

Kent M. Friedrichsen
AFRL, Infrastructure Management
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SHPO James Garrison
Arizona SHPO
1300 W. Washington Street
Phoenix, AZ 85007

Dear SHPO James Garrison

We received your response (27 February 2012) to our recent letter (30 January 2012) concerning the Draft Environmental Assessment for balloon launch and landing operations in Arizona, New Mexico, and Texas. You stated that you were looking forward to receiving our Section 106 consultation with your office and the tribes.

In January of 2011, we sent your office an official letter and a Standard Operating Procedures (SOP) document for the proposed launch and landing operations. The letter and SOP were sent to satisfy the requirements of the National Historic Preservation Act of 1966, as amended. In addition to contacting your office concerning lands in Arizona, we also wrote to the Navajo Nation, White Mountain Apache, San Carlos Apache, Hopi, and Kaibab Paiute tribes of Arizona; the Las Vegas Paiute and Moapa Band of Paiute of Nevada; and the Utah's Paiute Indian Tribe.

We received your 1 March 2011 response. You indicated a "conditional no adverse effect" contingent upon avoidance measures specified in the SOP and upon concurrence from respective land managers and Tribal Historic Preservation Officers. Additionally, we received a notice of concurrence from the Hopi Tribal Council dated 14 February 2011. We did not receive a reply from any of the other entities, thus assuming concurrence after the period of 30 days had elapsed.

I attached your March 2011 letter and the February 2011 Hopi Tribal Council letter. I trust this answers your request to receive the Section 106 consultation with your office and the applicable tribes in Arizona.

Sincerely

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer

2 Attachments
1. March 2011 Letter
2. February 2011 Letter

SHPO – 2010-1633 (89559, CNAE

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

JAN 20 2011

MEMORANDUM FOR: Arizona SHPO
James Garrison
SHPO
1300 W. Washington Street
Phoenix, AZ 85007

FROM: AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SUBJECT: Cultural Resource Considerations for the Balloon Launch and Landing Operations Project, Air Force Research Laboratory, Kirtland Air Force Base, New Mexico.

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) previously sent you a letter (attachment 1) regarding the Balloon Launch and Landing Operations project. This second letter is to provide you with specific details for satisfying the requirements of the National Historic Preservation Act of 1966, as amended (NHPA). The attached Standard Operating Procedures (SOP) document describes in detail how possible impacts to cultural resources will be reduced (attachment 2).

Per the SOP, the cultural resource manager (CRM) at Kirtland AFB will provide the balloon project technicians with location information for documented cultural resources located in proximity to proposed landing or recovery operation areas. The CRM will also provide training to the balloon project technicians in order to assist them in identifying and avoiding previously undiscovered and undocumented cultural resources. Therefore, we anticipate no adverse effects to prehistoric or historic properties from the Balloon Launch and Landing Operations Project.

The CRM, Ms. Valerie Renner, will be contacting your office to retrieve the historic properties geodatabase of site locations to avoid. We appreciate your review of this proposed action and will assume your concurrence that there is no adverse effect to historic properties from the launch locations and that the SOP is acceptable if we receive no reply within 30 days. Please review the attached documents, and you may contact me at (505) 853-7926, or by e-mail at kent.friedrichsen@kirtland.af.mil if you have any questions or concerns.

K M Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer
Space Vehicles Directorate

Attachments:
Introductory Letter Regarding the Balloon Launch and Landing Operations Project
SOP for Balloon Launch and Landing Operations Project

Conditional No Adverse Effect

*

CONCUR

for Anne G. Howard 3-1-11

ARIZONA STATE HISTORIC PRESERVATION OFFICER
ARIZONA STATE PARKS BOARD

Contingent upon avoidance measures specified in the S.O.P. and upon concurrence from respective land managers and THPOs.

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

Forward to CPO

RECEIVED
FEB 08 2010
TRIBAL [illegible]
THE HOPI TRIBE

RECEIVED
FEB 11 2010
BY: OPO/KS

AFRL/RVOI
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

Ivan L. Sydney Sr.
Hopi Tribal Council
PO Box 123
Kykotsmovi, AZ 86039

Dear Mr. Sydney:

The United States Air Force Research Laboratory, Space Vehicles Directorate (AFRL/RV) is proposing to conduct medium- to high-altitude balloon flights in Arizona, New Mexico, and Texas. The Proposed Action would include approximately 30 balloon operations per year to perform research and development (R&D) for equipment and technology in the stratosphere (greater than 65,000 feet above the earth).

The purpose of this letter is to coordinate and solicit input to identify sensitive resources that could potentially be affected by the Proposed Action. Additionally, AFRL/RV would like your input on property access requirements for balloon operation recovery of equipment on tribal lands.

The mission of the AFRL/RV balloon program is to provide the U.S. Department of Defense and other government agencies with stratospheric access for scientific and strategic R&D. AFRL/RV has launched and flown in excess of 3,000 balloons since 1947, and employs well-established and proven procedures for balloon operations, including ground tests, pre-flight checks, and launch, tracking, and recovery protocol.

Flight operation equipment would include a 200- to 500-foot-diameter balloon, gondola, parachute, termination system, and payload. Support systems and vehicles include a helium trailer, launch restraint vehicle, launch vehicle, a mobile ground station, and recovery vehicles. Counties with proposed launch and landing sites are included in Figure 1. Specific launch and landing locations within these counties would be selected based on R&D requirements, optimal flight path, normal weather patterns, and seasonal winds. Launch sites will generally be selected in secure areas with a runway or ramp, and away from towns and cities. Landing and recovery sites would be planned to avoid wilderness areas, national parks, Native American tribal land, populated areas, mountains, water, and other natural and cultural resources. AFRL/RV would maintain a geographical positioning system (GPS) track on the balloon throughout the flight to evaluate potential landing sites. Extensive climate monitoring and modeling before and during the operation would result in efficient and effective landing and recovery. If winds, humidity, air quality, and temperature are not ideal during launch, the operation would not be initiated. This would allow greater success in landing and recovery.

The area of potential effects (APE) for balloon operations includes all prospective launch and landing sites across New Mexico, Arizona, and Texas. However, balloon operations are not expected to cause

any significant impacts on cultural resources. The proposed launches would primarily occur at established airfields and would not involve any ground-disturbing activities. Therefore, effects on cultural resources would be unlikely. Additionally, extensive monitoring and tracking before and during the operation provide accuracy in termination and landing and allow avoidance of sensitive areas.

The Proposed Action does not include any ground-disturbing activities. Balloon launches would primarily occur at established airfields. Extensive monitoring and tracking before and during the operation will provide accuracy in termination and landing, and allow for avoidance of sensitive areas. Balloon retrieval vehicles would use existing roadways as much as possible. It is possible that there may be instances when the team would have to travel off-road to recover balloon equipment. Personnel would contact the local authorities before entering private property. Personnel would notify the appropriate cultural resources manager at Kirtland Air Force Base should a cultural resource be discovered.

In order to ensure avoidance of cultural resources, all field personnel will receive cultural resources training designed to assist in identifying both architectural and archaeological cultural resources of concern that may be located during balloon retrieval. Careful adherence to resource management and responsible decision making in accordance with proposed procedures would greatly minimize the potential for impact to cultural resources. With implementation of these measures, effects on historic properties are considered highly unlikely.

Please accept this correspondence a as per the National Historic Preservation Act (NHPA), as amended, the Archaeological Resources Protection Act of 1979 (ARPA), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), and the Presidential Executive Order 13175 Consultation and Coordination with Indian Tribal Governments. In accordance with the above regulations, we are assessing what information we need in order to further identify culturally affiliated properties that may be affected by our proposed undertakings.

Please let us know if there are areas of particular cultural concern that we should avoid and if there are any special access requirements needed to enter the tribal lands.

If there are specific individuals that you prefer we contact, please forward the name and method of initiating consultation with this individual, or with your designated tribal representative, traditional religious leader, or preferred NHPA point of contact. We are also contacting officials of other federally recognized tribes in the area to invite them to consult with us on this issue.

We look forward to working with you or your designated representative. Please provide input to Mr. Kent Friedrichsen at (505) 853-7926 or via email at kent.friedrichsen@kirtland.af.mil by February 12, 2010. If we do not hear from you by that time, we will assume that you concur with our determination and will proceed as discussed above. If you require additional information, please contact Mr. Friedrichsen.

Sincerely,

K M Friedrichsen

K.M. Friedrichsen
Senior General Engineer
Space Vehicles Directorate

concur- that recommendation for a finding of no historic properties affected is appropriate for this undertaking.

for Kuwanwisiwma

2-16-10

Enclosures: Figure 1: Location of the Proposed Action

SHPO-2010-1633(100619)

GC

DEPARTMENT OF THE AIR FORCE
AIR FORCE RESEARCH LABORATORY (AFMC)

4 April 2012

Kent M. Friedrichsen
AFRL, Infrastructure Management
3550 Aberdeen Ave SE, Bldg 462
Kirtland AFB, New Mexico 87117-5776

SHPO James Garrison
Arizona SHPO
1300 W. Washington Street
Phoenix, AZ 85007

Dear SHPO James Garrison

We received your response (27 February 2012) to our recent letter (30 January 2012) concerning the Draft Environmental Assessment for balloon launch and landing operations in Arizona, New Mexico, and Texas. You stated that you were looking forward to receiving our Section 106 consultation with your office and the tribes.

In January of 2011, we sent your office an official letter and a Standard Operating Procedures (SOP) document for the proposed launch and landing operations. The letter and SOP were sent to satisfy the requirements of the National Historic Preservation Act of 1966, as amended. In addition to contacting your office concerning lands in Arizona, we also wrote to the Navajo Nation, White Mountain Apache, San Carlos Apache, Hopi, and Kaibab Paiute tribes of Arizona; the Las Vegas Paiute and Moapa Band of Paiute of Nevada; and the Utah's Paiute Indian Tribe.

We received your 1 March 2011 response. You indicated a "conditional no adverse effect" contingent upon avoidance measures specified in the SOP and upon concurrence from respective land managers and Tribal Historic Preservation Officers. Additionally, we received a notice of concurrence from the Hopi Tribal Council dated 14 February 2011. We did not receive a reply from any of the other entities, thus assuming concurrence after the period of 30 days had elapsed.

I attached your March 2011 letter and the February 2011 Hopi Tribal Council letter. I trust this answers your request to receive the Section 106 consultation with your office and the applicable tribes in Arizona.

Thank you for the clarification.
Ann E. Howard
for S.H.P.O. 4/25/12

Sincerely

KM Friedrichsen

KENT M. FRIEDRICHSEN
Senior General Engineer

2 Attachments
1. March 2011 Letter
2. February 2011 Letter

DEPARTMENT OF THE AIR FORCE
377th Civil Engineer Squadron (AFMC)

19 April 2012

377 MSG/CEV
2050 Wyoming Blvd., SE
Kirtland AFB NM 87117-5270

Ms. Jan Biella
Deputy, State Historic Preservation Officer
Office of Cultural Affairs
Historic Preservation Division
Bataan Memorial Building
407 Galisteo Street, Suite 236
Santa Fe, New Mexico 87501

Dear Ms. Biella,

This letter is in reference to a previously submitted report entitled "Environmental Assessment, Balloon Launch and Landing Operations, Air Force Research Laboratory, Space Vehicles Directorate, Kirtland Air Force Base, New Mexico" (EA) and the corresponding Finding of No Significant Impact (FONSI). The HPD log number for the FONSI is 93829.

Per a telephone conversation with Bob Estes in March, I am sending for your review a paper copy of the requested modifications to the EA. These modifications are in response to your office's concern with the Standard Operating Procedures document included in the report appendices. I sent these edits by email to Bob Estes on March 20, 2012.

We appreciate your review of the proposed changes to the EA. We will assume your concurrence with these changes, and that Section 106 consultation is complete, if you offer no reply within 30 days. Please contact me at 846-8840 if you have further questions.

Sincerely,

VALERIE RENNER
Cultural Resource Manager

Attachments:
Edits to AFRL EA