New Mexico Tech

ENERGETIC MATERIALS RESEARCH AND TESTING CENTER

Final Environmental Assessment

Establishing a Drop Zone at the Energetic Materials Research and Testing Center in Socorro, New Mexico and Finding of No Significant Impact (FONSI)

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Prepared by Organizational Strategies, Inc

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November 7, 2007

Subject: Notice of Availability of the Final Environmental Assessment and Finding of No Significant Impact (FONSI) for Establishing a Drop Zone at the Energetic Materials Research and Testing Center in Socorro, New Mexico

Dear Reader,

The New Mexico Institute of Mining and Technology (NMT) Energetic Materials Research and Testing Center (EMRTC) in cooperation with the United States Air Force 58th Special Operations Wing (58th SOW) have prepared a Final Environmental Assessment (FEA) to address the potential effects of establishing a Drop Zone (DZ) at EMRTC's Field Laboratory. Through the development of the Final Environmental Assessment, it has been determined that a Finding of No Significant Impact will result from implementation of the proposed action. The proposed DZ is wholly contained within EMRTC property, west of the City of Socorro, NM. The proposed DZ consists of all of Section 33, Township 2 South, and Range 2 West, totaling 640 acres, or one square mile. The DZ is located approximately 8.89 miles west of the City of Socorro, on the west side of Socorro Peak.

The purpose of the DZ is to provide a DZ training area primarily for the 58th SOW who currently lack adequate access to suitable locations to complete mission essential DZ operations training. The DZ would also enable EMRTC to expand their training mission relative to the war on terror for users such as the United States departments of Defense, Justice, and Homeland Security, in addition to state and local government first responder groups.

A Draft Environmental Assessment (DEA) was published and made available to the public for review and comment beginning July 23, 2007. Notices of Availability of the DEA were published in the *Albuquerque Journal* and the *El Defensor Chieftain* newspapers. The comment period extended for a minimum 30 days. Comments were received and accepted through September 14, 2007, for consideration in this Final EA and FONSI.

FINDING OF NO SIGNIFICANT IMPACT
Environmental Assessment for Establishing a Drop Zone at the Energetic Materials Research and Testing Center in Socorro, New Mexico

SUMMARY

Proponent: New Mexico Tech, Energetic Materials Research and Testing Center

Proposed Action: Establish and use a Drop Zone for C-130 or similar aircraft for training and research objectives at New Mexico Tech, Energetic Materials Research and Testing Center Field Lab in Socorro, New Mexico. The Drop Zone includes approximately 640 acres (1 square mile) in the northwest portion of the EMRTC Field Lab, located at Section 33, Township 2 South, Range 2 West.

Finding: Finding of No Significant Impact

Background
This Final Environmental Assessment (EA) reviews the environmental impacts associated with the establishment and use of a Drop Zone at the EMRTC Field Lab in Socorro, New Mexico. The drop zone will allow C-130 or similar aircraft to complete training and research missions, including dropping personnel and cargo bundles from the aircraft at low elevations. This assessment fulfills requirements of the National Environmental Policy Act (NEPA) requiring identification of the environmental consequences of federal actions.

Alternatives
This analysis includes consideration of two alternatives. First, Alternative 1 - Establish and use a Drop Zone for C-130 or similar aircraft for training and research objectives at New Mexico Tech, Energetic Materials Research and Testing Center Field Lab in Socorro, New Mexico. The Drop Zone includes approximately 640 acres (1 square mile) in the northwest portion of the EMRTC Field Lab, located at Section 33, Township 2 South, Range 2 West. The second alternative considered is the No Action Alternative, as required by law. The No Action Alternative would not establish a drop zone at EMRTC. The 58th SOW would continue to use other established drop zones including Roswell, New Mexico, resulting in higher costs associated with drop zone activities much greater distances from Kirtland Air Force Base. Other drop zone sites have been analyzed in previous environmental assessments and therefore were not considered in this analysis. These include Roswell Airport, Isleta Drop Zone and the Centerfire Drop Zones.

Finding
The analysis of effects contained in the Final Environmental Assessment considered both the context and intensity of the action in determining its significance as outlined in 40 DFR 1508.27. Based upon the analysis in the EA, it is determined that the proposed action will not significantly affect the human environment as defined in the National Environmental Policy Act. Consequently, the proposed action does not require the preparation of an Environmental Impact Statement.

John L. Meason — 5 Nov 07

Dr. John L. Meason
Director
Energetic Materials Research and Testing Center
New Mexico Tech

Date

Final Environmental Assessment

Establishing a Drop Zone at the Energetic Materials Research and Testing Center in Socorro, New Mexico

Executive Summary

New Mexico Institute of Mining and Technology (New Mexico Tech or NMT), Energetic Materials Research and Training Center (EMRTC), in cooperation with the United States Air Force 58th Special Operations Wing (58th SOW) have prepared this Final Environmental Assessment (EA) to determine the potential environmental consequences of a Proposed Action to be located at EMRTC, in Socorro, New Mexico. The action assessed in this document is the proposed establishment and use of a Drop Zone (DZ) for C-130 or similar aircraft for training and research objectives.

Purpose and Need for the Proposed Action

The 58th SOW based at Kirtland Air Force Base (AFB) in Albuquerque plays a vital role in the global war on terror, as an essential training location for aircrews of fixed and rotary wing aircraft. Aircrews are training for a variety of roles to be filled in the military theaters in Iraq and Afghanistan, among which are conducting drops of supplies and equipment, as well as personnel, into varying terrain, from aircraft. It is essential for available lands and airspace in relatively close proximity to Kirtland AFB to be available in meeting this training mission and support the nation's war on terror.

Currently, the 58th SOW utilizes drop zones at the Roswell Airport, Isleta Drop Zone, and Centerfire Drop Zone. These locations pose problems both with location and logistics. The Roswell and Isleta drop zones do not meet the full training needs of the 58th SOW, as they are located at commercial airports. Additionally, the Isleta DZ is within the Class C airspace associated with the Albuquerque International Sunport and airspace conflicts with commercial and private aircraft often require that military flights divert until the other traffic clears the area. When drops are made at the Roswell Airport, ground personnel must drive to Roswell from Albuquerque to recover the dropped bundles. This requires the equivalent of one week of temporary duty funds per trip and consumes funds that were not allocated for this purpose.

The Energetic Materials Research and Testing Center (EMRTC), a part of New Mexico Tech, is internationally recognized and has over fifty years of expertise in explosives research and testing. EMRTC specializes in the research, development, and analysis of energetic materials for both corporate and government clients. EMRTC is located approximately 70 miles south of Kirtland AFB.

As one of several research divisions of New Mexico Tech, EMRTC has access to university faculty with experience in a wide variety of scientific and technical disciplines. EMRTC's 40-square-mile Field Laboratory is located in the mountains adjacent to the New Mexico Tech campus in Socorro, New Mexico. The Field Laboratory contains over 30 test sites, gun ranges, storage sites, and other research facilities, allowing for a complete spectrum of research and testing activities.

The 40 square mile facility at EMRTC is equipped for a variety of research, training and testing exercises. EMRTC currently works with Departments of Defense, State, Justice, and Homeland Security in conducting training programs specifically designed to supplement United States efforts in the war on terror. The combination of available lands and complementary training and research activities at EMRTC provide

an opportunity to establish a drop zone that would complement and support the 58th SOW in meeting their training mission. This provides a long term solution that will meet training requirements and funding restrictions.

In addition to providing a drop zone that could be used by the 58th SOW, EMRTC would be able to expand their own training mission relative to the war on terror. Currently, EMRTC offers a variety of training courses and opportunities to the United States departments of Defense, Justice, and Homeland Security, in addition to state and local government first responder groups. The proposed DZ could be used in a variety of training scenarios by these groups to enhance skills training.

Description of the Proposed Action and Alternatives

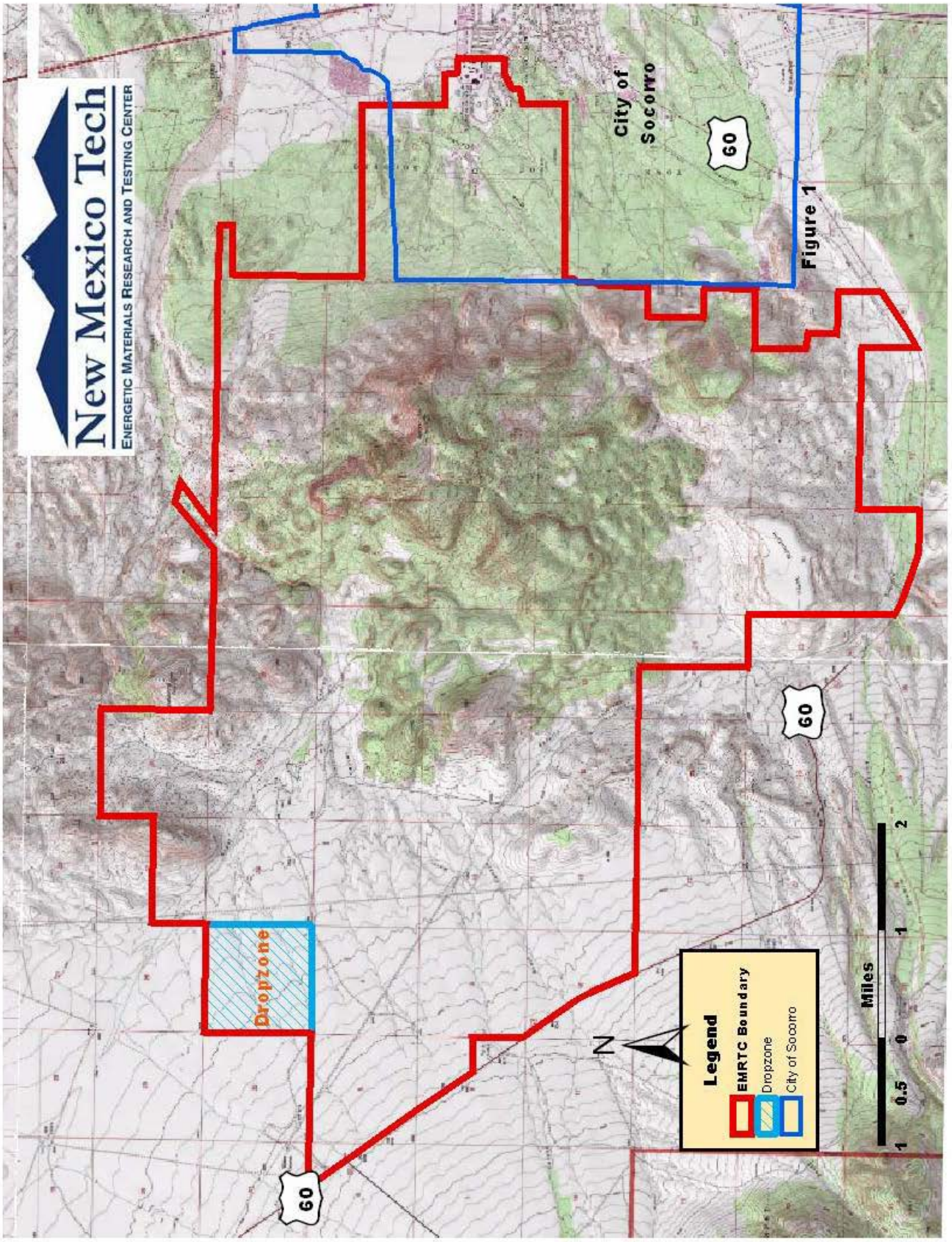
EMRTC is proposing to establish a drop zone within their 40 square mile facility in Socorro County, New Mexico. The drop zone would be available to a variety of clients, with the primary client being the 58th SOW based at Kirtland AFB. Existing roads or jeep trails would be used for the majority of recovery efforts; therefore no construction or terrain modifications would be required. Some off-road travel to recover large cargo drops may occur on a limited basis (at most, once per month) but would not require road construction. Airdrops would consist of personnel and cargo drops. The proposed DZ is presented in Figure E-1and Figure 2-1. It is located in the northwest portion of EMRTC, and includes Section 33, Township 2 South, Range 2 West. Training missions could include up to three missions per day, up to five days per week (15 missions/week), 48 weeks per year, (720 per year maximum) with each mission consisting of up to 15 passes over the target centered in the drop zone.

To ensure ground safety, two to four personnel would arrive at the designated DZ prior to the drops to ensure that the area is clear of obstacles (i.e. people, wildlife, cattle, trucks, and other equipment.) When the airdrops are completed, ground personnel would recover dropped bundles and place them in military vehicles for transport back to Kirtland AFB. It is anticipated that C-130 and HH-60 type aircraft would be the primary airframe to utilize the drop zone. Training missions would be conducted up to three times a week.

No Action Alternative

Under the No-Action Alternative, C-130 rescue/special operations drop training would continue at the Roswell, New Mexico Airport once a week. Training needs of the 58th SOW would not be met in providing realistic training operations for pilots in preparation for deployment to various venues around the world. Training missions would continue to be interrupted by commercial and civilian air traffic. Expansion of training opportunities offered through EMRTC would not be expanded to include drop zone activities.

Figure E-1: Topographic Map of the Project Area and Vicinity



Summary of Anticipated Environmental Effects

Proposed Action

Implementation of the proposed action could result in minor negative impacts to air quality, noise, soils, biological and cultural resources for the duration of use of the DZ. Minor changes to airspace management, land use, and traffic would occur. No impacts are anticipated to occur to human health and safety, water resources, floodplains, wetlands, minority and low-income populations, utilities, socioeconomics, or environmental management from the proposed action. Only those resources that potentially could be impacted are discussed below.

Airspace management

Use of the DZ would result in minor increase in the amount of air traffic that the area currently receives. Air traffic from Kirtland AFB to the EMRTC DZ would utilize existing air traffic routes. Drop Zone activities would take place west of Socorro Peak (M Mountain) and would not impact approach routes to or from the Socorro Municipal Airport, which is located approximately 9.36 miles south and east of the proposed DZ.

Air Quality

Implementation of the proposed action would increase air emissions in the EMRTC area slightly due to increased overflight of the DZ. Emissions from the aircraft would cause very minor increase in air pollutants. Socorro County is classified as Attainment for all criteria pollutants. Air quality impacts would be highly localized in the undeveloped and open areas of the EMRTC Field Lab and would not result in any violations of the *de minimis* levels set for the area.

Noise

Slight increases in aircraft noise would occur during training operations. Military aircraft already utilize the established air traffic routes. The proposed DZ is wholly contained within the EMRTC Field Lab. The DZ area is an undeveloped and rural setting, with no residences within or near the DZ.

Geologic Resources

Implementation of the proposed action could result in minor short-term negative impacts to soils from vehicles used to recover dropped bundles or from the impact of dropped bundles. Some soils may be disturbed, but the geologic setting and topography would not be altered.

Land Use

Lands within the EMRTC Field Lab are currently used for research, testing and training activities centered around the use of energetic materials. The area for the proposed action is open space, and free of any residential or other structures.

Biological Resources

Minor impacts to vegetation and wildlife may occur from the use of the DZ. Vegetation and some smaller species of wildlife potentially could be crushed as bundles are dropped from aircraft and in recovery of the dropped bundles. However, the vegetation found in the area is very resistant to this type of disturbance (grazing and trampling by cattle) and any loss of wildlife would be minor as the potential impacted species are common and have stable populations throughout the area. The area is not critical habitat for any threatened or endangered species.

Cultural Resources

EMRTC has conducted cultural resource inventories of lands near the proposed drop zone and has not identified the presence of any cultural resources that would be eligible for the National Register of Historic places. Should any cultural resources be exposed through the use of the DZ as soils are disturbed, appropriate protocols in accordance with the National Historic Preservation Act would ensure the resources are documented and consultation with the New Mexico State Historic Preservation Officer would occur. No significant impact would occur to the cultural resources.

Environmental Justice

The DZ area is unpopulated. The 58th SOW would utilize existing air traffic routes to and from the area. No minority or low-income populations would be disproportionately impacted by the action.

Cumulative Impacts

The area proposed for the DZ is rural in nature, and wholly contained within the EMRTC Field Lab. Other actions that have the potential for cumulative impacts include the overall operations of EMRTC, as well as a proposal to establish special use airspace above EMRTC. The proposed DZ is a considerable distance from other areas of EMRTC where most of the testing and training activities take place. It is anticipated that these activities would not impact one another, due to spatial separation. Establishment of the special use airspace is intended to protect the safety of civilian aircraft flying over the area, as testing, research and training activities take place. Training activities associated with the Drop Zone would continue with the establishment of special use airspace. These activities are complementary to the use of the drop zone, and will be closely coordinated to avoid interference. Based on this information, significant cumulative impacts to the resources analyzed in this EA are not anticipated.

No Action Alternative

Under this alternative, no drop zone would be established at EMRTC. No change to current conditions would occur from the No-Action Alternative.

Finding and Conclusion

This Final EA identifies that no significant impacts to the human environment as defined in NEPA, will occur. It is therefore concluded that a Finding of No Significant Impact (FONSI) be issued, and that it is not necessary to prepare an Environmental Impact Statement relative to the proposed action. This Environmental Assessment fulfills the requirements of NEPA and the implementing regulations promulgated by the Council on Environmental Quality.

Table of Contents

List of Figures

List of Tables

Chapter 1: Purpose and Need

1.1 Introduction

New Mexico Institute of Mining and Technology's (New Mexico Tech or NMT), Energetic Materials Research and Testing Center (EMRTC), in cooperation with the United States Air Force 58th Special Operations Wing (58th SOW) have prepared this Final Environmental Assessment (EA) to determine the potential environmental consequences of a Proposed Action to occur at EMRTC, in Socorro, New Mexico. The action assessed in this document is the proposed establishment and use of a Drop Zone (DZ) for C-130, HH-60 or similar aircraft for training and research objectives.

This document complies with the environmental impact analysis process set forth in 32 Code of Federal Regulations (CFR) 989, which incorporates Air Force Instruction 32-7061 and implementing the National Environmental Policy Act (NEPA), and the regulations implementing NEPA promulgated by the President's Council on Environmental Quality as Title 40 of the CFR, Parts 1500-1508. In addition, Section 1.6.8 of Executive Order 12372, "Intergovernmental Review of Federal Programs," directs federal agencies to consult with and solicit comments from state and local government officials whose jurisdictions would be affected by federal actions. NEPA procedures are intended to ensure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The draft EA describing the potential impacts from this proposed action was made available to the public for at least 30 days (July 23, 2007– August 22, 2007) prior to the decision on whether to proceed with the action.

1.2 Purpose and Need for the Proposed Action

The 58th SOW based at Kirtland Air Force Base (AFB) in Albuquerque plays a vital role in the global war on terror, as an essential training location for aircrews of fixed and rotary wing aircraft. Aircrews are training for a variety of roles to be filled in the military theaters around the world, including Iraq and Afghanistan, among which are conducting drops of supplies, equipment and personnel from aircraft into varying terrains. It is essential that lands and airspace in relatively close proximity to Kirtland AFB are available to meet this training mission and support the nation's war on terror.

Currently, the 58th SOW utilizes drop zones at the Roswell Airport, Isleta Drop Zone, and Centerfire Drop Zone. These locations pose problems with both location and logistics. The Roswell and Isleta drop zones do not meet the full training needs of the 58th SOW, as they are located at commercial airports. Additionally, the Isleta DZ is within the Class C airspace associated with the Albuquerque International Sunport and airspace conflicts with commercial and private aircraft often requiring that military flights divert until the other traffic clears the area. When drops are made at Roswell Airport, ground personnel must drive to Roswell from Albuquerque to recover the dropped bundles. This requires the equivalent of one week of temporary duty funds per trip and consumes funds that were not allocated for this purpose. This amounts to an annual savings of $121,920.00 (Lodging and per diem for four recovery personnel for five days, 48 weeks/year, based on GSA rates for FY 2008) in just TDY expenses.

The Energetic Materials Research and Testing Center (EMRTC), a part of New Mexico Tech, is internationally recognized and has over fifty years of expertise in explosives research and testing. EMRTC specializes in the research, development, and analysis of energetic materials for both corporate and government clients. EMRTC is located approximately 70 miles south of Kirtland AFB.

As one of several research divisions of New Mexico Tech, EMRTC has access to university faculty with experience in a wide variety of scientific and technical disciplines. EMRTC's 40-square-mile Field Laboratory is located in the mountains adjacent to the New Mexico Tech campus in Socorro, New Mexico. The Field Laboratory contains over 30 test sites, gun ranges, storage sites, and other research facilities, allowing for a complete spectrum of research and testing activities.

The 40 square mile facility at EMRTC is equipped for a variety of research, training and testing exercises. EMRTC currently works with Departments of Defense, State, Justice, and Homeland Security in training programs specifically designed to supplement United States (U.S.) efforts in the war on terror. The combination of available lands and complementary training and research activities at EMRTC provide an opportunity to establish a drop zone that would help the 58th SOW meet their training mission. This provides a long term solution that will meet training requirements and funding restrictions.

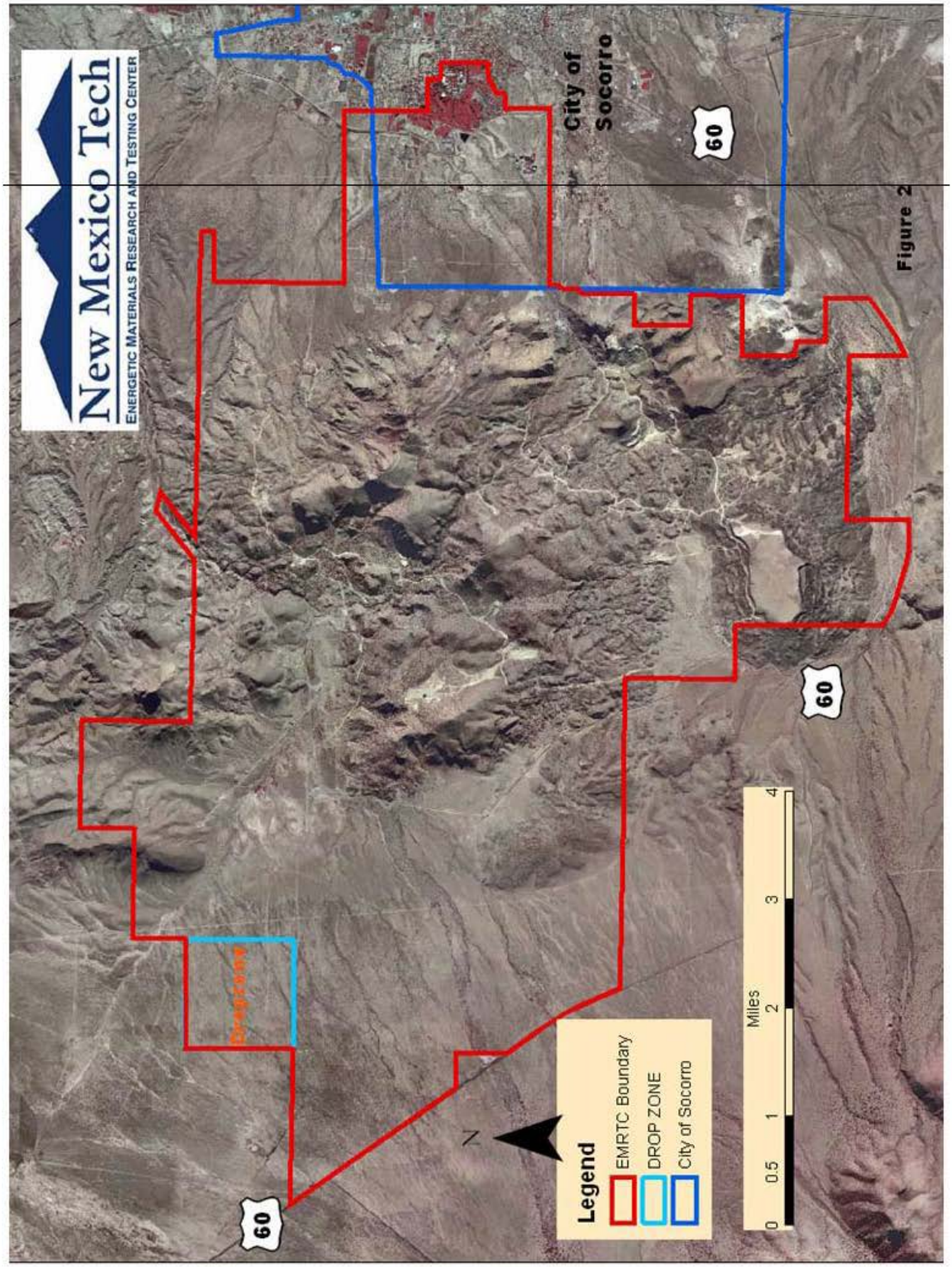
In addition to providing a drop zone that could be used by the 58th SOW, EMRTC would be able to expand their own training mission relative to the war on terror. Currently, EMRTC offers a variety of training courses and opportunities to the United States Departments of Defense, Justice, and Homeland Security, in addition to state and local government first responder groups. The proposed DZ could be used in a variety of training scenarios by these groups to enhance skills training.

Chapter 2: The Proposed Action and Alternatives

EMRTC is proposing to establish a drop zone within their 40 square mile facility in Socorro County, New Mexico. The drop zone would be available to a variety of clients, with the primary client being the 58th SOW based at Kirtland AFB. Existing roads or jeep trails would be used for the majority of recovery efforts; therefore no construction or terrain modifications would be required. Some off-road travel to recover large cargo drops may occur on a limited basis (at most, once per month) but would not require road construction. Airdrops would consist of personnel and cargo drops. The proposed DZ is presented in Figure E-1and Figure 2-1. It is located in the northwest portion of EMRTC, and includes Section 33, Township 2 South, Range 2 West. Training missions could include up to three missions per day, up to five days per week (15 missions/week), with each mission consisting of up to 15 passes over the target centered in the drop zone.

To ensure ground safety, two to four personnel would arrive at the designated DZ prior to the drops to ensure that the area is clear of obstacles (i.e. people, wildlife, cattle trucks, and other equipment.) When the airdrops are completed, ground personnel would recover dropped bundles and place them in military vehicles for transport back to Kirtland AFB. It is anticipated that C-130 and HH-60 type aircraft would be the primary airframe to utilize the drop zone. Training missions would be conducted up to three times a week.

Figure 2-1: Aerial View of the Project Area and Vicinity



The proposed drop zone is wholly contained within EMRTC, west of Socorro Peak (M Mountain). The proposed drop zone consists of all of Section 33, Township 2 South, and Range 2 West, totaling 640 acres, or one square mile (See Figure E-1and Figure 2-1).

To ensure ground safety, two to four personnel would arrive at the designated DZ prior to the drops to ensure that the area is clear of obstacles (i.e. people, wildlife, cattle trucks, and other equipment). When the airdrops are completed, ground personnel would recover dropped bundles and place them in military vehicles for transport back to Kirtland AFB. It is anticipated that C-130 type aircraft would be the primary airframe to utilize the drop zone. Training missions could be conducted up to three times a day, up to five days a week, 48 weeks per year. This results in up to 720 training missions per year. (This is considered the maximum number that will occur for purposes of analysis. However, if weather conditions or other variables are not favorable, missions will not take place so realistically, there will be less than 720 missions per year. But for analysis purposes, the maximum number of 720 missions per year was used to demonstrate the maximum potential impacts.)

A standard cargo airdrop practice operation would include an average of 15 passes across a DZ for the following purposes:

- an initial pass to familiarize the aircrew with the area and any obstacles that might affect the dropped objects;
- an average of ten passes to drop simulated rescue bundles/kits (orange nylon bags measuring 2 feet by 3 feet, filled with rubber ballast (each weighing approximately 45 pounds). Half of these drops would occur with parachutes attached to the bundles from an elevation of 300 feet above ground level (AGL) and half would occur with no parachute (freefall) from an elevation of 150 feet AGL;
- two passes to drop a group of five rescue bundles connected by long tethers (to make them easier to find in water drops or low visibility situations); and
- two passes to drop simulated airdrop training bundles (sandbags weighing approximately 15 pounds each).

Large simulated cargo pallets weighing up to 3,200 pounds would be dropped with only one pass over the DZ. These drops would occur an average of once per month. A large fork lift would be brought to the site in order to recover the dropped pallet. Some off-road travel by the fork lift would be necessary for recovery of the pallets, but would be minimized as much as possible. With the exception of the forklift for the heavy loads, only existing roads would be used to recover dropped cargo and personnel; no construction or terrain modification would be required.

On other training missions, personnel drops would occur from no lower than 800 feet AGL and all personnel dropped would use static lines. One person would jump on each pass and the average number of jumpers would be eight. Personnel drops would occur primarily during the day (80 percent). Recovery of personnel would occur on existing dirt roads.

Permits and Consultations

No special permits would be required for use of the EMRTC drop zone. The proposed DZ is wholly contained within EMRTC boundaries.

Alternatives to the Proposed Action

For the proposed drop zone, locations had to be large enough to accommodate the airdrops, (640 acres or larger) free of obstructions, and located on relatively level, open terrain. Additionally, control of ground activities within the DZ and area immediately surrounding it is essential. Lastly, the drop zone needs to be within EMRTC Field Lab boundaries in order to meet their research, testing and training missions, as well as provide a location for potential clients, including the 58th SOW based at Kirtland AFB. In anticipation of the DZ being used primarily by EMRTC and the 58th SOW, the DZ needs to be able to accommodate multiple run-ins from multiple directions and provide minimal interference with other air traffic. A DZ

location near existing low-level routes already used by the 58th SOW for training was considered important to provide training realism and save fuel for training activities.

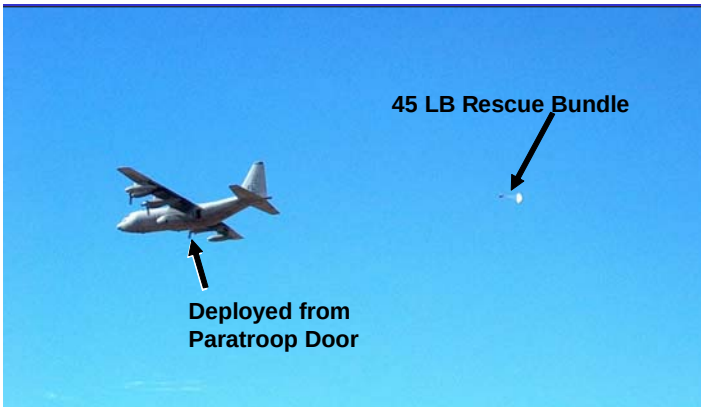
Figure 2-2: Typical Drop Zone Activities

Typical Aircraft used for drop zone activities - MC-130H

Aircrews include experienced instructors in command of the aircrew in all aspects of drop zone activities, including multiple redundancies of all safety procedures to ensure drops are made safely and accurately.

(All photos courtesy of US Air Force, 58th SOW)

Aircraft flying over drop zone – approximately 300 feet above ground level (AGL)



Bundles are dropped from the Paratroop Door

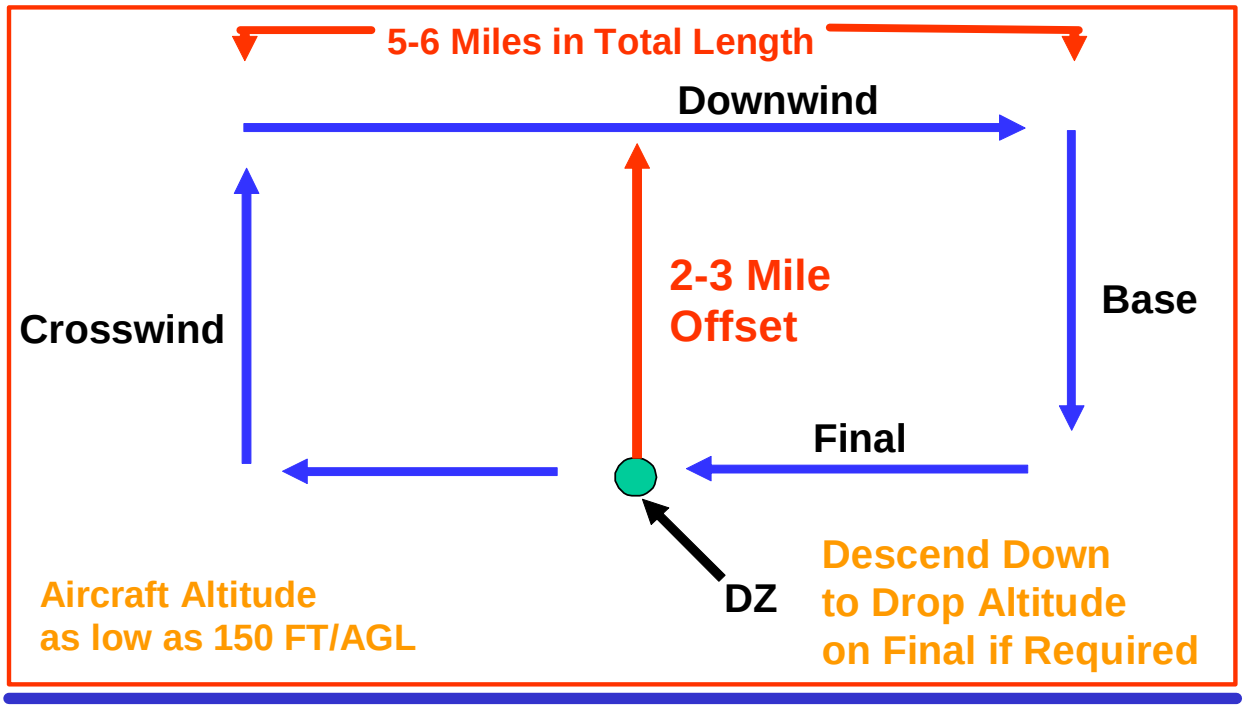
Dropped bundle landing towards target. Most drops land within 10-20 meters of the target. All drops will land within 700 meters of the target, with most drops (>99%) landing less than 100 meters from the target.

Simulated Aircrew training bundle

MA-1 Rescue Kit

High Speed Heavy Equipment Drop

Figure 2-3: Drop Zone Flight Pattern



Drop Zone flight patterns include what is called a "Drop Box Pattern." The aircraft will make a pass over the drop zone target based upon wind conditions. Keying on noted ground landmarks, the aircraft will complete a "box pattern" over the target. Only when conditions are right will the bundles be dropped from the aircraft. Accuracy of drops is ensured through multiple safety and procedural checklists, under the tight command of experienced instructors. In any given training mission, the aircrew will make as many as 15 passes, or rotations through the box pattern, over the drop zone target. As noted in the graphic, these passes are contained within 2-3 miles of the target center. All passes over the drop zone will occur west of Socorro Peak, in airspace over the EMRTC Field Lab, and over the EMRTC drop zone. None of these passes during the training mission will occur over the City of Soc orro, or any residences in rural areas in the valley.

No-Action Alternative

Under the No-Action Alternative, EMRTC would not have the ability to provide research, testing and training activities related to air drops within the EMRTC Field Lab in Socorro. Additionally, the 58th SOW would need to continue to utilize other drop zones at Roswell and Isleta, both of which have logistical challenges resulting in increased costs and availability of training time in meeting their established mission.

Alternatives Considered but Not Carried Forward for Analysis

EMRTC did not consider any other potential drop zones. For the mission of EMRTC related to research, testing and training, it would not be practical to establish a drop zone outside of the EMRTC Field Lab.

The Air Force considered six different sites in their environmental assessment for establishment of the Centerfire Drop Zone and Helicopter Landing Zone in 2005. Among those sites considered is the White Sands Missile Range, southeast of Socorro. These alternate locations were dismissed without further consideration due to a variety of logistical and operational concerns. For example, the primary mission of White Sands is for testing and research related to development of new aircraft and associated technologies. As such, White Sands air space is under tight restrictions, and closed to non-participating aircraft as a rule, making scheduling time to use White Sands impractical and not realistic. The same restrictions at White Sands that led to dismissing it as a potential drop zone in the 2005 assessment, are still present. Additionally, a drop zone at locations other than the ERMTC Field Lab, would not meet the needs of EMRTC. There is no need to further discuss these locations in meeting the needs of the 58th SOW.

Chapter 3: The Affected Environment

This chapter describes the baseline conditions of resources within the project area that will be impacted should the proposed action be implemented. NEPA and other laws require that impacts to certain resources be evaluated in the environmental assessment process.

3.1 Project Area Description

The proposed drop zone consists of approximately 640 acres (one square mile) of land and associated airspace in the western area of the EMRTC Field Lab in Socorro County, New Mexico as identified on Figure E-1and Figure 2-1. The EMRTC DZ includes Section 33, Township 2 South, Range 2 West. The land is undeveloped and rural in nature. Terrain is relatively flat, free of any significant slopes, hills, mountains, rills, gullies, or other notable geologic features. There are no residences or other structures within the proposed drop zone.

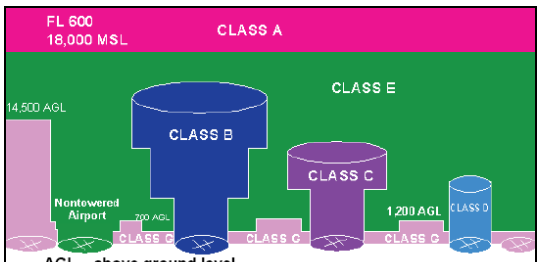
3.2 Airspace Management

3.2.1 Definition of Resource

The Federal Aviation Administration (FAA) regulations in 14 CFR 71 define controlled airspace as airspace that has specific defined dimensions such as altitude ranges and surface area boundaries, and requires specific pilot qualifications, operating rules, and equipment requirements. Air Traffic Control (ATC) is provided within controlled airspace. Controlled airspace consists of five classes (Classes A through E). Instrument Flight Rules apply to all five classes and Visual Flight Rules apply to Classes B through E.

Uncontrolled airspace is airspace that does not fall under Classes A through E and does not have ATC services. Glass G airspace is designated as uncontrolled airspace. Figure 3-1 identifies United States airspace classes.

Figure 3-1: U.S. Airspace Classes



Airspace Classes	Communications	Entry Requirements	Separation	Special VFR in Surface Area
A	Required	ATC Clearance	All	N/A
B	Required	ATC Clearance	All	Yes
C	Required	Two-way communications prior to entry	VFR/IFR	Yes
D	Required	Two-way communications prior to entry	Runway operations	Yes
E	Not required for VFR	None for VFR	None for VFR	Yes
G	Not required	None	None	N/A

Source: FAA

3.2.2 Existing Conditions

The airspace around and including the proposed drop zone is classified as Class G, uncontrolled airspace, from ground level to 700 feet AGL and Class E from 700 feet AGL to a ceiling of 14,500 mean sea level (MSL). As such, no communication or entry requirements are required for flying.

3.3 Safety

3.3.1 Definition of resource

Safety issues typically associated with and specific to military DZs include the potential for mid-air aircraft mishaps, aircraft collisions with objects on the ground (e.g. towers, buildings or mountains), weather related accidents and bird-aircraft collisions. Policy exists regarding guidelines for reporting flight, ground and explosives mishaps.

Because children may suffer disproportionately from environmental health risks and safety risks, Executive Order (EO) 13045, Protection of Children from Environmental Health Risks and Safety Risks, was introduced in 1997. This EO prioritized the identification and assessment of environmental health risks and safety risks that may affect children and ensures that federal agencies' policies, programs, activities and standards address environmental and safety risks to children.

3.3.2 Existing Condition

3.3.2.1 Flight Safety

The primary user of the drop zone, the 58th SOW, has in place a Bird Aircraft Strike Hazard (BASH) Plan for Kirtland AFB. The 58th SOW Flight Safety Midair Collision Avoidance Handbook is the 58th SOW's flight safety manual. When using the proposed DZ at EMRTC, the 58th SOW would follow these handbooks and safety manuals. Other clients that would use the proposed DZ would be required to have similar plans, handbooks and manual in place, prior to authorization to utilize the DZ. Additionally, all drop zone missions are under the command of experienced instructors as aircrews are trained. Multiple

safety and procedural checklists are utilized to ensure complete safety and accuracy at all times during training missions.

3.3.2.2 Ground Safety

Ground safety includes many categories, consisting of ground, industrial, operational and occupational safety hazards, motor vehicles, off duty military and fire. Ground mishaps can occur on or off an installation, and may involve EMRTC, clients, contractors and property losses. They can occur in a work environment from the use of equipment or materials including administrative, supply, custodial and maintenance for organization functions. Ground safety issues are central to ground operations directly related to recovery of bundles dropped, as well as ground coordination with aircraft utilizing the drop zone.

3.4 Air Quality

3.4.1 Definition of resource

Outdoor air quality in a given location is described by the concentration of various pollutants in the atmosphere. Air quality at a given location is a function of several factors, including the quantity and dispersion rates of pollutants in the region, temperature, the presence or absence of inversions, and topographic and geographic features of the region. For purposes of this EA, Socorro County forms the region of concern for air quality.

The U.S. Environmental Protection Agency (EPA) has established National Ambient Air Quality Standards (NAAQS) for criteria pollutants, including ozone, carbon monoxide (CO), nitrogen dioxide, sulfur oxides, particulate matter equal to or less than ten micrometers in diameter (PM^{10}), particulate matter equal to or less than 2.5 micrometers ($PM^{2.5}$) in diameter, and lead. The Clean Air Act requires that all states attain compliance through adherence to the NAAQS, as demonstrated by the comparison of measured pollutant concentrations and the NAAQS.

3.4.2 Existing Conditions

Socorro County is unclassified for criteria pollutants. Additionally, Socorro County is in "attainment" for all criteria pollutants as outlined in NAAQS (EPA, 2007). In May, 2003, The Bureau of Land Management, Socorro Field Office, completed Air Quality Impact Analysis (BLM, 2003a) for lands and activities within Socorro County. Significant data has not been collected in order to compile detailed air quality information specific to each of the criteria pollutants. At this time, air quality is such that such monitoring and regular data collection is not necessary.

3.5 Noise

3.5.1 Definition of Resource

Noise has been generally defined as "unwanted sound." More specifically, noise can degrade the quality of life by disrupting sleep, conversation, outdoor recreation, property values and other quality of life factors. There are very few objective ways to measure the significance of these noise impacts on the quality of life, because such impacts involve differences in perceptions, personalities and lifestyles. In addition, other factors such as variations in the construction of dwelling units can affect how sound impacts a person's quality of life.

One accepted measure for evaluating the significance of sound impacts is an upper limit of 65 decibels (dB) in noise sensitive areas. The decibel level is averaged over the day/night period, with a 10 dB penalty assessed for sounds occurring between the hours of 10:00 p.m. and 7 a.m. This standard was recommended by the Federal Interagency Committee on Noise (FICON) in 1980 and accepted by the FAA. The 65 dB Ldn standard is higher than the previous EPA residential noise limit of 55 dB because it gives greater importance to the economic benefit of noise-generating construction and development. The table below provides a comparison of decibel levels from typical sounds heard in the human environment.

Table 3-1: Noise Examples and Sound Levels

Sound or noise example	Typical sound level
Weakest sound heard by average human ear	0 dB
Rustle of leaf	20 dB
Whisper	30 dB
Normal conversation	60 dB
Inside passenger car at 60 MPH	65-75 dB
Ringing telephone	80 dB
Lawn mower	85-90 dB
Maximum exposure, 8 hours	90 dB
Tractor, bulldozer	95-105 dB
Rock drill	110-115 dB
Circular saw, table saw	110 dB
Threshold of pain	120 dB
Fire engine siren	120 dB
Jet engine at takeoff	140 dB
12-gauge shotgun	165 DB

According to FAA criteria, a significant noise impact occurs if a Proposed Action causes 1.5 dB increase at or above the 65 dB Ldn level in a noise sensitive area. Noise sensitive areas include residential areas, churches, schools, and parks.

The area of influence for noise impacts from aircraft associated with the Proposed Action could be broadly defined as areas where sounds can be heard from the aircraft themselves as well as associated activities related to use of the proposed DZ. More specifically, this would include noise sensitive areas within 63.5 dB Ldn noise contours along the flight paths, excluding areas near Kirtland AFB and along existing flight paths where noise impacts have already been occurring from these same aircraft. Aircraft flying from Kirtland AFB will fly in a southwesterly direction within Class E or G airspace until they arrive at the target area. It is anticipated that aircraft will generally follow the Rio Grande/I-25 corridor from Kirtland AFB to Socorro.

The anticipated travel corridor from Kirtland AFB to Socorro traverses relatively barren areas where noise sensitive resources are rare. Initially, aircraft using this flight path will cross an unpopulated section of the Isleta Indian reservation. Once the aircraft are in flight they will cross an uninhabited region of mixed ownership, including BLM lands, Forest Service lands, state lands, and private property. Aircraft may fly over the Sevilleta National Wildlife Refuge, an area with sensitive noise resources, where they will maintain a flight altitude of at least 2,000 feet AGL. South of the refuge they will traverse a mostly uninhabited area of BLM and state lands. South of Socorro, aircraft will turn east and north to the drop zone, west of Socorro Peak, in the northwestern area of EMRTC. Aircraft will not fly over the City of Socorro.

Aircraft traveling along these flight paths will observe a 2000 AGL limit when passing over the Sevilleta NWR. There are no elevation restrictions along other portions of the flight path, including the Isleta Indian Reservation.

3.5.2 Existing Conditions

The proposed action would occur on EMRTC Field Lab, west of Socorro Peak (M Mountain) and the City of Socorro. Noise levels in a quiet urban areas of Socorro measure between 48-58 A-weighted dBA, while outdoor daytime noise levels in a rural areas around Socorro typically measure between 38-48 dBA. (OSI, 2007)

3.6 Land Use and Visual Resources

3.6.1 Definition of Resource

Land use is the classification of either natural or human-modified activities occurring at a given location. Natural land use includes rangeland and other open or undeveloped areas. Human-modified land use classifications include residential, commercial, industrial, communications and utilities, agricultural, institutional, recreational, and other developed areas. Land use is regulated by management plans, policies, regulations, and ordinances (e.g. zoning) that determine the type and extent of land use allowable in specific areas and protect specially designated or environmentally sensitive areas.

Visual resources are defined as the natural and manufactured features that constitute the aesthetic qualities of an area. These features form the overall impression that an observer receives of an area (i.e. landscape character). An area's susceptibility to visual impacts is related to visual sensitivity. Highly sensitive resources include national parks, recreation areas, historic sites, wild and scenic rivers, designated scenic roads and other areas specifically noted for aesthetic qualities.

3.6.2 Existing Conditions

Lands within the proposed DZ are within the EMRTC Field Lab. Current use includes activities related to the mission of EMRTC, including research, testing and training related to energetic materials. The land has also been used for livestock grazing. There are no structures on the lands in the proposed DZ. Some jeep trails exist within the proposed DZ.

The visual environment consists of primarily open grasslands. No official scenic values have been designated for lands within the EMRTC Field Lab.

Socorro County has no zoning in place. Therefore, no lands within the DZ are subject to any local zoning or land use regulations.

3.7 Geologic Resources

3.7.1 Definition of Resource

The geologic resources of an area consist of all soil and rock materials. Soils refer to unconsolidated earthen material overlying bedrock or other parent material. For this report, only soil properties pertaining to erosion are described, although the geology of an area can also include mineral deposits, notable landforms, tectonic features, and fossil remains. At the site of the proposed action, none of these other features exist or would be affected by implementation of the proposed action.

3.7.2 Existing Conditions

The proposed DZ is located within the La Jencia Basin, in the Basin and Range Province. This area is located east of the Magdalena Mountains, and west of Socorro Peak (M Mountain) which is west of the town of Socorro. The area of the proposed DZ is relatively flat grasslands, lending to the foothills of Socorro Peak. The elevation of the proposed DZ is approximately 5,800 feet MSL, generally sloping to the northeast.

As identified by the BLM in 2003:

> *"The Basin and Range physiographic province occupies the majority of Socorro County and the southeastern corner of Catron County. The Basin and Range province is characterized by north-trending block-faulted mountain ranges separated by deep, alluvium-filled basins. The mountain ranges typically are composed of a Precambrian (Proterozoic) igneous or metamorphic core complex bounded by block-faulted and folded Paleozoic and Mesozoic sedimentary rocks. The deep basins generally contain Paleozoic and Mesozoic sedimentary rocks, formerly part of the Colorado Plateau,*

which were faulted and folded during the Tertiary, then overlain by Tertiary sedimentary and volcanic sequences that thicken to the west."

"… the Basin and Range province has been subjected to intense tectonic activity along the Rio Grande rift that increased the geological complexity. The Rio Grand Rift is a major feature of the Basin and Range province. It is a north-trending block-faulted rift that effectively bisects New Mexico, separating the Colorado Plateau and Basin and Range provinces from the Great Plains province to the east. The Rio Grande Rift is characterized by deep, sediment-filled block-faulted grabens, uplifts that expose Precambrian basement rocks, and tilted block faults caused by crustal extension along the north-south rift trend. The northeast-southwest trending San Agustin Basin/Reserve graben trend separates stable blocks of Colorado Plateau sediments from the Colorado Plateau province." (BLM, 2003b)

3.8 Biological Resources

3.8.1 Definition of Resource

Biological resources include native, naturalized, or introduced plants and animals and the habitats in which they occur. Protected species are defined as those listed as threatened, endangered, proposed, or candidate for listing by the United States Fish and Wildlife Service (USFWS); New Mexico Energy, Minerals, and Natural Resources Department (NMEMNRD); and/or the New Mexico Department of Game and Fish (NMDG&F). Federal species of concern, formerly known as candidate category two species, are not protected by law; however, these species could become listed, and therefore are considered when addressing biological impacts of an action on biological resources. The New Mexico Natural Heritage Program maintains a listing of threatened or endangered species. NMEMNRD has the responsibility for identifying and listing sensitive plant species considered in this analysis. Animal species of special concern to the NMDG&F are also considered.

Sensitive habitats include those areas designated by the USFWS as critical habitat protected by the Endangered Species Act (ESA) and sensitive ecological areas as designated by state or federal rulings. Sensitive habitats also include wetlands, plant communities that are unusual or of limited distribution, and important seasonal use areas for wildlife (e.g. migration routes, breeding areas, crucial summer/winter habitats).

3.8.2 Existing Conditions

Vegetation at the proposed DZ consists primarily of grassland species. Common species include blue grama *(Bouteloua gracilis)*, galleta *(Pleuraphis jamesii)*, dropseed *(Sporobolus spp.)*, ring muhly *(Muhlenbergia torreyi)*, milkvetch *(Astragalus spp.)*, sunflowers *(Helianthus spp.)*, curlycup gumweed *(Grindelia nuda)*, evening primrose *(Oenothera albicaulis)*, globemallow *(Sphaeralcea spp.)*, prickly pear cactus *(Opuntia phaeacantha)*, broom snakeweed *(Guiterrizia sarothrae)*, and Great Plains yucca *(Yucca glauca)*.

Wildlife species in the area are typical of those found in semi-arid grassland ecosystems and include mule deer *(Odocoileus hemionus)*, pronghorn (*Antilocapra americana),* coyote *(Canis latrans)*, badger *(Taxidea taxus)*, prairie dogs *(Cynomys spp)*, cottontail rabbit (*Sylvilagus audubonii),* and blacktailed jack rabbit *(Lepus californicus)*. Bird species consist of the red-tailed hawk *(Beutoeo jamaicensis)*, mourning dove *(Zenaida macroura)*, common raven *(Corvus corax)*, roadrunner (*Geococcyx californianus),* western meadow lark *(Sturnella neglecta)*, horned lark *(Eremophila alpestris)*, scaled quail *(Callipepla squamata)*, and western kingbird *(Tyrannus verticalis)*. The prairie rattlesnake *(Crotalus viridis)*, bull snake *(Pituophis melanoleucus)*, whiptail lizard *(Cnemidophorus spp.)*, horned lizard *(Phrynosoma spp.)*, lesser earless lizard *(Holbrookia maculate)*, and spadefoot toad *(Spea spp.)* are common reptiles and amphibians inhabiting these grasslands.

3.9 Cultural Resources

3.9.1 Definition of Resource

Historic properties are classified as buildings, sites, districts, structures or objects. A building is created to shelter any form of human activity. A structure is distinguished from a building in that it is a construction designed for purposes other than creating human shelter. Objects are constructions that are primarily artistic in nature or are relatively small and simply constructed. A site is the location of a significant event, a prehistoric or historic activity, or a building or structure whose location possesses value. A district is a concentration or linkage of sites, buildings, structures, or objects that are united historically or aesthetically by plan or development.

The criteria for establishing significance are set forth in Title 36 CFR Part 60.4. Procedures for the application of the National Register criteria for evaluation are found in various National Park Service bulletins. These bulletins provide guidelines so that decisions concerning significance, integrity, and treatment can be reliably and consistently made.

3.9.2 Existing Conditions

A variety of cultural resource site surveys have been conducted by the State of New Mexico as part of the operations at EMRTC. Several objects have been found in the Socorro Peak area, and in the foothills surrounding Socorro Peak. Objects include some arrowheads, fire rings, and lithic scatter. (Gossett and Gossett, 1990). The State Historical Preservation Officer determined that these sites are not eligible for inclusion in the National Register of Historical Places. Consultation with Tribes with an interest in the area have noted no resources of interest within the project area (See Appendix A).

3.10 Environmental Justice Considerations

3.10.1 Definition of Resource

The identification of minority and low-income populations as dictated in Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires Federal agencies make achieving environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations, low-income populations, and Native American tribes.

Those minority and/or low-income populations that could potentially be adversely affected by the proposed DZ are identified to provide a baseline for evaluating the potential for adverse impacts to disproportionately affect minority or low-income populations.

3.10.2 Existing Conditions

There are no residences within EMRTC lands, including the proposed DZ. However, the City of Socorro, and Socorro County have significant minority populations, as well as a significant low-income population. The following table presents minority and low-income populations data for Socorro County.

Table 3-2: Minority and Low-Income Populations Data for Socorro County

New Mexico (Comparison Population)		Minority Population=		55.3%	Low-Income Population=	18.4%
		Minority Population			Low-Income Population	
Census Tract	Total Minority	>50%	>55.3%	Poverty Rate	Poverty Rate >50%	Poverty Rate >18.4%
Socorro County, 9461	99.4%	Yes	Yes	70.1%	Yes	Yes
Socorro County, 9781	57.34%	Yes	Yes	22.7%	No	Yes
Socorro County, 9782	49.8%	No	No	24.7%	No	Yes
Socorro County, 9783.01	60.0%	Yes	Yes	31.0%	No	Yes
Socorro County, 9783.02	54.3%	Yes	No	32.6%	No	Yes
Socorro County, 9783.03	68.1%	Yes	Yes	29.0%	No	Yes

Sources: U.S. Census Bureau 2002

Chapter 4: Environmental Consequences

4.1 Summary of Environmental Resources Not Affected by This Action

The following resources would not be impacted by the Proposed Actions: water resources, hazardous materials and wastes, transportation and circulation, utilities, and socioeconomics. The reasons for excluding them from detailed analysis are in the following section.

4.1.1 Water Resources

Potential impacts to water resources were not analyzed in this EA. There are no surface water bodies in the area of the proposed DZ and there would be no impacts to either surface or ground water from the proposed operational activities.

4.1.2 Hazardous Materials and Wastes

No change in use, creation or storage of hazardous materials or wastes would occur as a result of the proposed action. No hazardous materials or wastes would be handled, used or stored at the site of the proposed DZ. As a result, potential impacts to hazardous materials and wastes were not analyzed in this document.

4.1.3 Transportation and Circulation

Potential impacts to transportation and circulation were not analyzed in this EA because the proposed action would not change demand for transportation systems or affect commercial air traffic in the area. The minor increase of a few vehicle trips per week from Kirtland AFB to the proposed DZ would not impact circulation in the area.

4.1.4 Utilities

Potential impacts to utilities were not addressed in this EA because no changes to utilities would occur as a result of the proposed action. The proposed DZ would not have any utility connections or requirements.

4.1.5 Socioeconomics

Potential impacts to socioeconomics were not assessed in this EA because no construction, equipment rental, or changes in salaries or personnel numbers would occur as a result of the proposed action. The 58th SOW training activities would occur in a different place than currently, but that change of location would have very little impact on socioeconomics. The only change that would occur would be ground crews that used to travel to other drop zones, would now travel to Socorro for cargo recovery. Purchases of gasoline and food would occur in different locations than before, but those purchases would not constitute an impact on regional or local socioeconomics.

4.2 Environmental Resources Affected by the Proposed Action

This analysis identifies environmental resources that would be affected, though not significantly, by the proposed action. For the purposes of analysis, it was assumed that the primary aircraft used in drop zone training activities would be C-130 or similar airframes. However, this does not preclude other aircraft from being used for drop zone activities. Impacts associated with the impacts caused by the dropped bundles are the same regardless of the aircraft used to drop the bundles. In the cases of air quality and noise, the impacts of several airframes, both fixed and rotary wing, were analyzed. Aircraft not specifically noted in the analysis may utilize the drop zone for research and training activities, as long as emissions (air quality) and noise levels are equal to or less than those presented in the analysis.

4.2.1 Airspace Management

The significance of potential impacts to airspace management depends on the degree to which the proposed mission change would affect the airspace environment. Significant impacts could result if the proposed action would: 1) impose major restrictions on air commerce opportunities; 2) significantly limit airspace access to a large number of users; or 3) require modifications to Air Traffic Control (ATC) Systems.

4.2.1.1 Proposed Action

There would be a minor impact to airspace in the area of the EMRTC proposed DZ as a result of the proposed increased use of the airspace. There would be an increase of up to 720 annual (3 times per day, up to five days per week for 48 weeks per year) aircraft operations. During any single training mission, the aircraft will make up to 15 passes over the drop zone following the box pattern outlined in Chapter 2. These 15 passes will occur over EMRTC Field Lab lands, on the west side of Socorro Peak, approximately 5-10 miles from the City of Socorro, and approximately 6-10 miles from the Socorro Airport. The passes over the DZ during training missions will have no impact on air traffic in or out of Socorro Airport. All passes over the DZ will occur in Class E and/or G airspaces.

In consideration of overall air traffic patterns utilized by the 58th SOW, there would be an overall decrease of use of other airspaces and other drop zones, as those mission needs would be moved to occur at the EMRTC DZ. The proposed action would not result in major restrictions, limits to airspace access or requirements for modifications of the ATC systems because it would occur in Class E and G airspace. It would therefore not create any significant adverse impact.

4.2.1.2 No-Action Alternative

Under the No-Action Alternative, there would be no change in airspace use, as training would continue at other drop zones. Current drop zones would continue to be used on a limited basis resulting in training deficiencies. Conflict in air traffic would continue in and around areas currently used as drop zones.

4.2.2 Safety

An impact to safety would be considered significant if implementation of the proposed action would substantially increase risks associated with mishap potential or safety relevant to the public or the environment.

An impact to children from environmental health risks or safety risks would be considered significant if a proposed action would result in a disproportionate adverse impact to the health or safety of children.

Potential impacts to human health and safety are determined by comparing present conditions with conditions that would occur if a proposed action were to occur.

Analysis of potential impacts to children: 1) identify and describe hazards that could potentially affect children; 2) examine a proposed action and the potential effects the action may have on children; and 3) assesses the significance of potential impacts.

4.2.2.1 Proposed Action

Although implementation of the proposed action would change the location of activities for military training flights and ground crews, the same safety requirements would be in place. The 58th SOW and United States Air Force (USAF) regulations and standards, as well as the safety requirements of other potential clients to use the DZ, as discussed in Chapter 3 of this EA, would apply and therefore, proper protocol and safety rules would be implemented while performing DZ operations. There would be no change in mishap rates or Bird Aircraft Strike Hazard occurrences as a result of the proposed action.

Lands within the proposed DZ are secured, and wholly contained within EMRTC. Children do not live or recreate in the area proposed for the drop zone and ground crews would ensure that the DZ and surrounding area are clear of all individuals before any drops occur. Therefore, possible disproportionate negative impacts to children identified in EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, would not occur.

Concern for potential for bundles to miss targets has been expressed in the public review of the Draft EA. When training operations are taking place, the aircraft and aircrew are under the command of experienced instructors at all times. If conditions are not right for drop zone activities, drops are not made. Accuracy of drops is of utmost importance in drop zone activities. Greater than 90% of all drops land less than 100 meters of the target. No drops land outside the drop zone. Multiple safety procedures do not make it possible for drops to occur outside the drop zone, as bay doors are opened only when the aircraft is over the drop zone. The drop zone is approximately 8.98 miles from the City of Socorro, 9.36 miles from the Socorro Airport, and 1.16 miles to Highway 60. Additionally, flights will not occur over the City of Socorro when engaged in drop zone training missions, so there is no potential for any accidental drops over residences or other structures within the City of Socorro. This area was deliberately identified because of the open and undeveloped nature of the landscape, and lack of any structures, providing even greater safety during all activities.

Concern for ground safety related to vehicle traffic along Highway 60 during drop zone activities was expressed in the public review of the Draft EA. It was noted that drivers in vehicles on Highway 60 may be distracted by low-level flights taking place over the DZ. Drivers face many distractions on any highway, including cell phone use, scenery, wildlife, and other vehicles. Aircraft flights are common occurrence in most areas across the United States, and military aircraft flights are very common in many areas of New Mexico. Evidence is not available that indicates aircraft over flight has any sort of impact on traffic accidents in the positive or negative. Traffic in areas with much higher vehicle counts and much higher levels of low level air traffic (Interstate 25 and other roads around the Albuquerque Sunport and Kirtland AFB as an example) do not show increases in accidents as a result from distractions caused by low-level aircraft. This does not constitute a significant impact.

4.2.2.2 No-Action Alternative

Selection of the No-Action Alternative would result in continued use of other drop zones for cargo drop training. There would be no change to current conditions of safety or risks to children.

4.2.3 Air Quality

In November 1993, the EPA published the General Conformity Final Rule in the Federal Register (58 FR 63214). The purpose of the rule, "Determining Conformity of General Federal Actions to State and Federal Implementation Plans" is to ensure that all Federal actions conform to the State Implementation Plan (SIP) applicable to the project site. The applicable regulations are cited in 40 CFR Part 6, Part 51 (Subpart W), and Part 93. A "federal action" is defined as any action engaged in by the federal government, or any activity that a department, agency, or instrumentality of the federal government supports by providing financial assistance, licenses, permits, or approval in any way.

"Conformity to SIP" is defined as conformity to a SIP's purpose of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of such standards. As a result of the General Conformity Rule, federal actions must be evaluated to assess whether emissions associated with the action will interfere with the area's air quality improvement plan. The general conformity rule applies only to federal actions that may emit a criteria pollutant for which an area has been designated as non-attainment or maintenance.

All emission levels from the activities associated with the Proposed Action are below the tons/year *de minimis* threshold values for all pollutants as specified by the U.S. Environmental Protection Agency (EPA) in 40 CFR 93.153(b)(1)-(2). Further procedural requirements under the General Conformity Rule are therefore not applicable and the Proposed Action is anticipated to have a less than significant impact on local or regional air quality.

A determination of significant impact on air quality could result if any of the following conditions are anticipated to occur: 1) activities would release criteria pollutants that exceed National Ambient Air Quality Standards (NAAQS) and 2) activities are not in conformity with Section 176 of the Clean Air Act for Federal actions or approved State Implementation Plan.

4.2.3.1 Proposed Action

New emissions resulting from the proposed action would include emissions from aircraft and vehicles. Table 4-1 shows estimated emissions from operation of C-130 and other aircraft based on the number of training flights per year. Emissions from operation of the C-130 and other aircraft and DZ trainings were calculated using a line source model, the Multiple-Aircraft Instantaneous Line Source Dispersion Model, ESL-TR-89-59 (Liebsch 1990). For modeling purposes, it was assumed that all operations proposed for the DZ would be new to the area when in fact, many of these operations already occur in and around the region. Altitudes at the DZ would range from 150-800 feet, and a 450-foot average was used for calculation purposes. It is important to note that the aircraft operations modeled for the emissions analysis already occur, but some would occur in a different part of the state if the proposed action were implemented. Emissions resulting from the proposed action would be negligible and not constitute any impact to air quality in the proposed DZ. Emissions from vehicles used to recover the dropped bundles would be negligible.

4.2.3.2 No-Action Alternative

Under the No-Action Alternative, no changes to current air quality would occur because proposed DZ at EMRTC would not be used.

Table 4-1: Estimated Emissions for Aircraft

Pollutant	Average Time	Aircraft	Emissions (micrograms per cubic meter [µg/m^3])	NAAQS (µg/m^3)	NMAAQS
Carbon Monoxide	8-hour 1-hour	C-130 C-130	0.0169 0.0695	10 mg/m^3 40 mg/m^3	10 mg/m^3 15 mg/m^3
Nitrogen dioxide	Annual	C-130	0.0006	100	1
Sulfur oxide	Annual 24-hour 3-hour	C-130 C-130 C-130	0.0000702 0.0018 0.0071	80 365 1,300	52 260 1,300
Particulate matter	Annual 24-hour	C-130 C-130	0.0000358 0.0009	50 150	50 150

Source: Liebsch 1990.

Notes:

µg/m^3 = micrograms per cubic meter, mg/m^3=milligrams per cubic meter

NAAQS = National Ambient Air Quality Standards

NMAAQS = New Mexico Ambient Air Quality Standards

4.2.4 Noise

Noise impact analysis typically evaluates potential changes to existing noise environments that would result from implementation of a proposed action. Potential changes in the noise environment can be beneficial (i.e. if they reduce the number of sensitive receptors exposed to unacceptable noise levels), negligible (i.e. if the number of sensitive receptors exposed to unacceptable noise levels is essentially unchanged), or adverse (i.e. if they result in increased exposure of sensitive receptors to unacceptable noise levels).

4.2.4.1 Proposed Action

Table 4-2 shows the Sound Exposure Level values generated by aircraft likely to use the proposed DZ at various altitudes. Additional analysis for use of aircraft not listed will not be necessary, as long as sound exposure level values are equal to, or less than the greatest values listed in Table 4-3. The values in the table are based on the assumption that the C-130 aircraft were modeled flying at 170 knots.

Table 4-2: Sound Exposure Levels by Aircraft

Altitude Feet Above Ground Level	C-130 dB Level
125	105.7
200	102.7
250	101.2
315	99.7
500	96.5
1,000	91.4
2,000	85.8
3,150	81.7
5,000	77.3

Source: United States Air Force 1995
Note: Based on steady, level flight and using Omega 108 data from actual overflight noise measurements.

Table 4-3: Aircraft Settings, Operations and Noise from Proposed Action

Aircraft	Power Settings/ Airspeed	Altitude Distribution (feet, AGL) percent of the time at Altitude	Maximum Day Missions	Potential Night Ops*	Maximum Total Ops	Sound Level (dB)
C-130	580 C TIT 140 knots	250-500=50% 500-100=50%	720	145	720	78.6

Source: United States Air Force, 2001
Note:

TIT=Turbine Inlet Temperature (given in degrees Centigrade)
*Up to 20% of total missions may be conducted at night, though it is anticipated that most missions will be between 8:00 AM and 5:00 PM. When night missions are conducted, these will be in place of day missions.

Implementation of the proposed action would increase military air traffic in the area leading to an increase in noise levels. Noise levels at the proposed DZ would have little if any effect on humans in the immediate area, as the DZ is located in an area that is free of human dwellings. Noise impacts to the Socorro community would consist only of over flight that could occur as aircraft fly to and from the DZ. However, these portions of the flights would be at higher altitudes. If a flyover of the community does occur, noise impacts would be brief and limited only to the actual duration of the flyover. Such over flights will be short in nature, and will not elevate the 24-hour average dBA levels at significant levels. However, flight patterns to and from the EMRTC DZ will not go over the City of Socorro, but instead, will fly south of the city, turning to the west and entering the DZ from the south east, or would enter from north and west of the DZ.

Concern for noise impacts was expressed in the public review of the Draft EA. Concern was expressed about flights over the City of Socorro and associated noise impacts from those flights. As aircraft fly to and from the DZ, they will follow established routes along the I-25/Rio Grand Corridor. Aircraft will leave those routes to travel to the DZ. Following geographical features, the aircraft will go from established air routes to the DZ well south of the City of Socorro, traveling north west to the DZ. The geographical features of Socorro Peak make it impractical to fly over the City of Socorro. The path the aircraft will follow is mostly undeveloped, and consists mostly of BLM lands. Considering the distance these routes are from the City of Socorro, and the angles of sound waves to the City of Socorro, noise impacts will not be significant and certainly will not increase the average daily dB level established by the FAA for noise impact significance. Noise impacts will be the greatest within the DZ, as aircraft will be at their lowest altitudes for the greatest duration, as multiple passes are made over the DZ. However, the DZ is free of residential development and is approximately 9.98 miles from the City of Socorro, with Socorro Peak

between the DZ and the City. Noises associated with DZ activities will be virtually absent in the City of Socorro during multiple passes over the DZ. Only aircraft flying to and from the DZ will be noticed, as these flight can occur up to three times a day, five days a week, or fifteen times each week. It must be noted that the noise impacts identified in this analysis are for noise that will occur WITHIN the drop zone. Noise impacts outside the drop zone will be much less than what is identified in this analysis, as the aircraft will be flying at higher altitudes in transit to and from the DZ.

4.2.4.2 No-Action Alternative

Under the no-action alternative, there would be no changes to the current DZ use by the 58th SOW, or other potential client/users of the proposed DZ. No changes to the noise environment in the area of the proposed action would occur.

4.2.5 Land Use and Visual Resources

Potential impacts to land use from a proposed action are evaluated by determining if an action is compatible with existing land use and in compliance with adopted land use plans and policies. In general, land use impacts would be considered significant if they would: 1) be inconsistent or noncompliant with applicable land use plans and policies, 2) prevent continued use or occupation of an area, or 3) be incompatible with adjacent or nearby land use to the extent that public health or safety is threatened.

Methodologies for determining the impacts to visual resources are based on the level of visual sensitivity in an area.

Potential land use impacts are analyzed by: 1) identifying and describing land uses that could affect or be affected by a proposed action, 2) examining the effects the action may have on the resource, 3) assessing the significance of potential impacts, and 4) providing measures to mitigate potentially significant impacts. After assessing the visual character and relative sensitivity of an effected setting, changes to the landscape associated with a proposed action are analyzed in terms of their potential to noticeably alter existing view sheds.

4.2.5.1 Proposed Action

The use of the proposed DZ at EMRTC would not conflict with current land use. EMRTC serves the purposes of research, testing and training, related to the use of energetic materials, and other objectives, including training necessary to support civilian and military forces in supporting the war on terror. Establishment of a drop zone at EMRTC is fully consistent with these objectives and uses that occur on EMRTC lands.

Socorro County has no land use plan or zoning regulations in place, so consistency with such is not applicable.

Short-term changes to visual resources would occur while training operations are in progress. Aircraft and dropped bundles and parachutes could be viewed from nearby lands, in addition to dust that would be created during operations and drops. However, once training operations were completed, visual resources would return to prior condition. No construction or changes to the landscape would occur under the proposed action; therefore long-term impacts to visual resources would not occur.

4.2.5.2 No-Action Alternative

Under the no-action alternative, DZ operations would continue at other established drop zones. This alternative would be compatible with existing land uses and visual resources.

4.2.6 Geological Resources

An impact to geological resources would be considered significant if implementation of the proposed action would violate a federal, state, or local law or regulation protecting geologic resources (e.g. impacted unique landforms or rock formations) or result in uncontrolled erosion over a larger area than that allowed by regulations protecting soil resources.

Protection of unique geologic features and minimization of soil erosion are considered when evaluating impacts of a proposed action on geologic resources. Generally, such impacts are not considered significant if proper construction techniques and erosion control measures can be implemented to minimize short and long-term disturbance to soils and overcome limitations imposed by earth resources.

4.2.6.1 Proposed Action

Implementation of the proposed action would result in no significant impacts to regional geological resources. Dropping light cargo and personnel from aircraft would result in minor erosion caused by impact, but would be less than that caused by cattle grazing in the area. Large cargo drops would take place once a month at most. They would require use of a fork-lift to load the large pallet onto a truck after the drop. Some off-road disturbance to the grasslands would occur, but this would be minor due to the relative infrequency of this type of DZ training. In the event that the roads or ground becomes too muddy to facilitate vehicle recovery of the dropped bundles, DZ activities would be shut down until such time as the soil was dry enough to resume training opportunities.

4.2.6.2 No-Action Alternative

Selection of the no-action alternative would result in no change to current geological resources at the proposed DZ. Some minor naturally caused (e.g. wind or rain) erosion would continue on exposed soils.

4.2.7 Biological Resources

Determination of the significance of impacts to biological resources is based on: 1) the importance (legal, commercial, recreational, ecological or scientific) of the resource; 2) the proportion of the resource that would be affected relative to its occurrence in the region; 3) the sensitivity of the resource to proposed activities; and 4) the duration of ecological ramifications. Impacts to biological resources are considered significant if species or habitats of high concern are adversely affected over relatively large areas, or disturbances cause reduction in population size or distribution of a species of special concern.

Sensitive species or habitats in the vicinity of a project site are identified and potential impacts to biological resources, such as habitat loss and noise, resulting from implementation of a proposed action are evaluated.

4.2.7.1 Proposed Action

No significant impacts would occur to biological resources from the operation and use of the DZ at EMRTC. Some vegetation would be crushed by personnel and cargo drops. Additional trampling would occur during recovery efforts. Some localized erosion would occur at the proposed DZ, adding to the potential loss of vegetation at the site. The majority of these impacts to vegetation would be similar to the ongoing trampling and soil disturbance that occurs from cattle grazing. The area is heavily dominated by perennial grasses, which tolerate these types of disturbances. Although less likely, wildlife could potentially be killed by DZ activities. Loss of wildlife would be very limited and likely consist of small mammals, birds, and reptiles. Larger wildlife such as coyotes and deer are unlikely to be killed by DZ activities, as these animals are much more mobile and would tend to keep their distance from aircraft and ground personnel that would be present during drop operations. Impacts to cattle would not occur as ground personnel would ensure that no drops would take place if cattle were present. Noise impacts to wildlife from the aircraft would not be significant. Many noise studies have shown that wildlife disturbed by aircraft noise return to pre-noise activities shortly after the disturbance has stopped. Impacts to wetlands would not occur, as none are located within the proposed DZ.

There is an outside chance that raptors such as red-tailed hawks or Aplomado falcons could potentially be found flying over the site, but since no large water bodies or major rodent populations are found in the area, these species would only occasionally occur. Additionally, the lack of riparian habitats within the proposed DZ would preclude most birds from utilizing this area. Most other bird populations found in the area would occur during times of migration by neo-tropical migrants. The vast majority of these neo-tropical migrants would stay within the riparian corridor of the Rio Grande River. Additionally, bird species are very mobile and if present, will normally temporarily leave the area during DZ activities. Incidental take of bird species is highly unlikely and no impacts to bird species are expected to occur.

4.2.7.2 No-Action Alternative

Under the no-action alternative, there would be no changes to biological resources.

4.2.8 Cultural Resources

The national Historic Preservation Act of 1966, as amended, establishes the National Register of Historic Places and Title 36 CFR Section 60.4 defines the criteria used to establish significance and eligibility to the National Register as follows:

> *"The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and,*
>
> - *That area associated with events that have made a significant contribution to the broad pattern of our history; or*
> - *That area associated with the lives of persons significant in our past; or*
> - *That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or*
> - *That have yielded, or may be likely to yield, information important in prehistory or history."*

Analysis of potential impacts to significant cultural resources considers both direct and indirect impacts. Impacts may occur by:

- Physically alternating, damaging, or destroying all or part of a resource;
- Altering the characteristics of the surrounding environment that contribute to resource significance;
- Introducing visual, audible, or atmospheric elements that are out of character with the property or alter its setting; or
- Neglecting the resource to the extent that it is deteriorating or destroyed.

Impacts are assessed by identifying the types and locations of the proposed action and determining the exact locations of cultural resources that could be affected.

4.2.8.1 Proposed Action

Some cultural resources have been identified to be present within areas near the proposed DZ. Resources consist of some arrowheads and lithic scatter. (Gossett and Gossett, 1990) The State Historic Preservation Officer determined that these sites are not eligible for inclusion on the National Registry of Historic Places. Although these resources may be disturbed during DZ training, the impacts would not be considered significant since the sites were determined to be ineligible. For these reasons, no impacts are anticipated to occur to cultural resources as a result of the proposed action. However, should any cultural resources be discovered in the process of activities associated with the DZ, activities will cease until the site can be surveyed and resources documented, and the appropriate protocols followed regarding consultation with the State Historic Preservation Office (SHPO).

4.2.8.2 No-Action Alternative

Under the no-action alternative, there would be no changes to cultural resources within the proposed DZ.

4.2.9 Environmental Justice Considerations

An impact to environmental justice would be considered significant if an action would result in a disproportionate adverse impact to minority or low-income populations in the project vicinity.

Potential impacts to environmental justice are analyzed by identifying potential environmental effects from a proposed action that could have an adverse impact on minority or low-income population in the area that would be impacted.

4.2.9.1 Proposed Action

There is a relatively large percentage of minority and low-income populations in the town of Socorro, and surrounding area. However, the proposed DZ is located on the opposite side of Socorro Peak from the city, and away from any residences. Noise associated with over flight of aircraft in route to the proposed DZ is the only resource identified that may have a minor impact. Aircraft routing is determined by geographic features such as the location of mountain ranges in relation to the proposed DZ. Therefore there would be

no disproportionate adverse impact to human health or the environment to minority or low-income populations in the area.

4.2.9.2 No-Action Alternative

Selection of the no-action alternative would not result in any changes to the minority or low-income population in the region of influence.

Chapter 5: Cumulative Effects and Irreversible and Irretrievable Commitment of Resources

5.1 Cumulative Effects

The Council on Environmental Quality (CEQ) regulations stipulate that the cumulative effects analysis in an Environmental Assessment (EA) should consider the potential environmental impacts resulting from "the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions" (40 CFR 2508.7). Recent CEQ guidance (CEQ 1997) in considering cumulative effects affirms this requirement, stating that the first steps in assessing cumulative effects involves defining the scope of the other actions and there interrelationship with the proposed action. The scope must consider other projects that coincide with the location and timetable of the proposed action and other actions. Cumulative effects analysis must also evaluate the nature of interactions among these actions.

In this EA, an effort has been made to identify all actions that are being considered and are in the planning phase at this time that could affect the area in the vicinity of the proposed DZ at EMRTC. To the extent that details regarding such actions exist and the actions have a potential to interact with the proposed action in this EA, these actions are included in this cumulative analysis. This approach enables decision-makers to have the most complete information available so that they can evaluate the environmental consequences of a proposed action in relation to other projects that may affect the same region of influence.

5.1.1 Past and Present Actions Relevant to the Proposed Action and Alternative

The lands of the EMRTC have been used for over fifty years to further the research, testing and training relative to use of energetic materials. This history has included development, testing, and use of many types of energetic materials. As such, EMRTC has a demonstrated history, including management of drop zone activities, of assuring protection of environmental resources wherever their work is conducted. This history is relevant in that it demonstrates a workable balance of activities, including aircraft over flight and air traffic management, drop zone activities, bundle and even debris recovery in areas within the proposed drop zone and other lands surrounding it.

5.1.2 Reasonably Foreseeable Actions that Could Interact with the Proposed Action and Alternative

This category of actions includes United States Air Force and private actions that have a potential to partially coincide, either in time or geographic extent, with the proposed action. Information on these proposals is included to determine whether they would, if implemented, incrementally affect environmental resources.

Two actions within and nearby EMRTC have the potential to interact with the establishment of a drop zone at EMRTC. These actions include first, the installation of an Automated Weather Observation System (AWOS) at the Socorro Municipal Airport, just outside the southeast boundary of EMRTC Field Lab. Second, the Department of Homeland Security (DHS), Federal Emergency Management Agency (FEMA), in partnership with EMRTC, is in process of applying for the establishment of special use airspace (SUA) with the Federal Aviation Administration. Additional detail and explanation of the interaction of these actions with the proposed action is listed below.

5.1.2.1 Installation of the AWOS at Socorro Municipal Airport

The Socorro Municipal Airport is in the process of installing an automated weather observation system at the airport. At present, no such system exists in the area immediately around Socorro. This system, once

installed, with allow for automated collection of weather conditions at the Socorro Municipal Airport. This information may then be conveyed to aircrews in the area, including aircrews of aircraft utilizing the proposed drop zone. This will result in an enhanced level of information available to all aircraft users in the area, and will enhance the training opportunities. The cumulative impact associated with the installation of the AWOS is positive in relation to proposed DZ. The proposed DZ will have no impact on the installation or operation of the AWOS. It is anticipated that the installation of the AWOS will be categorically excluded from the NEPA requirements to complete an environmental assessment.

5.1.2.2 Establishment of Special Use Airspace at EMRTC

The Department of Homeland Security, Federal Emergency Management Agency in conjunction with ERMTC is in the process of preparing an application to establish special use airspace at EMRTC. The purpose of this action is to establish SUA in support of research, testing and training relative to energetic materials that have the potential to project debris into the air, up to thousands of feet above the ground. Establishment of the SUA would restrict non-participating private, commercial and military aircraft from using the airspace while the SUA is activated, providing greater assurance of safety. Additionally, creation of the SUA at EMRTC would increase the capacity of available training areas. The SUA will also be available to clients (including the 58th SOW based at Kirtland Air Force Base) to conduct air operations including air-to-ground gunnery, drops, and other training operations. The proposed SUA is much larger than the proposed drop zone. It includes all lands and airspace within the proposed drop zone, as well as most lands and airspace above the entire EMRTC Field Lab.

The cumulative impact associated with the establishment of the SUA would be complementary to the establishment of the drop zone. With the DZ within the SUA, the SUA could be activated during DZ exercises, offering even greater safety and air traffic control. DHS-FEMA and EMRTC are in process of completing an environmental assessment (EA) in meeting the requirements of NEPA. This proposal to create a drop zone at EMRTC will be considered in the cumulative effects section of that EA as well.

5.1.3 Analysis of Cumulative Effects

An analysis was done of the potential for cumulative impacts resulting from the actions described above when combined with the proposed action in this EA. The actions identified include federal and local government actions both requiring NEPA analysis.

The scope of this cumulative effects analysis is limited to the resources analyzed in Chapter 4 of this EA. The following resources were determined not to be impacted by the proposed drop zone: human health and safety, water resources, floodplains, wetlands, utilities, socioeconomics and environmental management. Since the proposed action will have no impact on these resources, it would not contribute to cumulative impacts in these areas either.

There are eight resources analyzed in Chapter 4 of this EA that were identified as having the potential to be slightly impacted by the proposed action, and are therefore examined in this cumulative analysis. They are: airspace management, air quality, noise, geological resources, land use, biological resources, cultural resources and environmental justice considerations. Cumulative impacts to these resources are not expected to occur in association with either of these mentioned actions, with the exception of airspace management.

Analysis shows that the establishment of the SUA will allow for improved and safer control of the proposed drop zone. Additionally, installation of the AWOS will allow for aircraft operators in the area, including those using the proposed drop zone and special use airspace, allowing for safer aircraft operations. The cumulative effect of the proposed action, with other actions in the area, is an increase in safety for all air traffic in the area.

5.2 Irreversible and Irretrievable Commitment of Resources

Irreversible commitment generally means material, non-material, and financial resources consumed that cannot be replaced. An irretrievable commitment of resources refers to the loss of production, harvest, or use of natural resources that occur over the life of the proposed action. Impacts are considered irreversible

and irretrievable where: uses of nonrenewable resources resulting from implementation of the proposed action are of sufficient magnitude that removal or nonuse thereafter is unlikely; and primary and secondary impacts generally would commit future generations to similar uses. On this basis, the proposed action would result in no irreversible and irretrievable commitment of resources. Fuel used by aircraft during training operations would be used for training flights, with or without the proposed action. It is possible that fuel may be conserved as a result of the proposed action since the proposed DZ is closer to potential clients, including the 58th SOW based at Kirtland AFB, than other drop zones currently in use.

Selection of the no-action alternative would not result in any additional irreversible or irretrievable commitment of resources.

Acronyms and Abbreviations

AFB	Air Force Base
AGL	Above Ground Level
ATC	Air Traffic Control
AWOS	Automated Weather Observation System
BASH	Bird Aircraft Strike Hazard
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	Carbon Monoxide
dB	Decibels
DHS	Department of Homeland Security
DZ	Drop Zone
EA	Environmental Assessment
EMRTC	Energetic Materials Research and Testing Center
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FICUN	Federal Interagency Committee on Noise
FL	Flight Level
FR	Federal Register
Ldn	Day-Night average sound level
MSL	Mean Sea Level
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NMAAQS	New Mexico Ambient Air Quality Standards
NMEMNRD	New Mexico Energy, Minerals, and Natural Resources Department
NMDG&F	New Mexico Department of Game and Fish
NMT	New Mexico Tech
OSI	Organizational Strategies, Inc.
PM10	Particulate matter equal to or less than ten micrometers in diameter
PM2.5	particulate matter equal to or less than 2.5 micrometers in diameter
SHPO	State Historic Preservation Office
SOW	Special Operations Wing
SUA	Special Use Airspace
TIT	Turbine Inlet Temperature
USAF	United States Air Force
USFWS	United States Fish and Wildlife Service

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Appendix A: Correspondence

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August 20, 2007

Subject: Proposed Undertaking Establishing a Drop Zone at the Energetic Materials Research and Testing Center in Socorro, New Mexico

On behalf of the New Mexico Institute of Mining and Technology, the Energetic Materials Research and Testing Center (EMRTC) is notifying you of the proposed project noted above. In accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800, EMRTC wishes to continue its consultation process with appropriate, federally recognized tribes who historically used this region and continue to use the area. We welcome your comments on this undertaking and look forward to hearing any concerns you may have regarding known sacred sites or other traditional cultural properties within the proposed project area.

EMRTC owns and operates a 40-square-mile field laboratory located in the mountains adjacent to the New Mexico Tech campus in Socorro, New Mexico. The field laboratory contains over 30 test sites, gun ranges, storage sites, and other research facilities, allowing for a complete spectrum of research and testing activities. EMRTC proposes to establish a drop zone within the boundaries of the field laboratory. Drop zone operations will be consistent with present land use. The drop zone would be available to a variety of clients, with the primary client being the 58th Special Operations Wing (SOW) based at Kirtland AFB. Airdrops would consist of personnel and cargo drops.

The proposed drop zone (defined as the area of potential effect) consists of approximately 640 acres (one square mile) of land and associated airspace in the western area of EMRTC's field laboratory in Socorro County, New Mexico as identified in the figure below. The drop zone includes Section 33, Township 2 South, Range 2 West. The land is undeveloped and rural in nature. Terrain is relatively flat, free of any significant slopes, hills, mountains, rills, gullies, or other notable geologic features.

Proposed Drop Zone Aerial and Boundaries

Before drop zone operations begin, two to four personnel will arrive at the designated drop zone to ensure that the area is clear of obstacles such as people, wildlife, cattle trucks, and other equipment. When the airdrops are completed, ground personnel will recover dropped bundles. It is anticipated that C-130 type aircraft would be the primary airframe to utilize the drop zone. Training missions could be conducted up to three times a day, up to five days a week.

A standard cargo airdrop practice operation would include an average of 15 passes across a drop zone for the following purposes:

- an initial pass to familiarize the aircrew with the area and any obstacles that might affect the dropped objects;
- an average of ten passes to drop simulated rescue bundles/kits (orange nylon bags measuring 2 feet by 3 feet, filled with rubber ballast (each weighing approximately 45 pounds). Half of these drops would occur with parachutes attached to the bundles from an elevation of 300 feet above ground level (AGL) and half would occur with no parachute (freefall) from an elevation of 150 feet AGL;
- two passes to drop a group of five rescue bundles connected by long tethers; and
- two passes to drop simulated airdrop training bundles (sandbags weighing approximately 15 pounds each).

Large simulated cargo pallets weighing up to 3,200 pounds would be dropped with only one pass over the drop zone. These drops would occur an average of once per month. A large fork lift would be brought to the site in order to recover the dropped pallet. Some off-road travel by the fork lift would be necessary for recovery of the pallets, but would be minimized as much as possible. With the exception of the forklift for the heavy loads, only existing roads would be used

to recover dropped cargo and personnel; no construction or terrain modification would be required.

On other training missions, personnel drops would occur from no lower than 800 feet AGL and all personnel dropped would use static lines. One person would jump on each pass and the average number of jumpers would be eight. Personnel drops would occur primarily during the day (80 percent). Recovery of personnel would occur on existing dirt roads.

Aircraft flying from Kirtland AFB to the drop zone will fly in a southwesterly direction until they arrive at the target area. It is anticipated that aircraft will generally follow the Rio Grande/I-25 corridor from Albuquerque to Socorro. The anticipated travel corridor from Albuquerque to Socorro traverses relatively barren areas where noise sensitive resources should not exist. Initially, aircraft using this flight path will cross an unpopulated section of the Isleta Indian reservation. Once the aircraft are in flight they will cross an uninhabited region of mixed ownership, including BLM lands, Forest Service lands, state lands, and private property. Aircraft may fly over the Sevilleta National Wildlife Refuge, an area with sensitive noise resources, if they maintain a flight altitude of at least 2,000 feet AGL. South of the refuge they will traverse a mostly uninhabited area of BLM and state lands. South of Socorro, aircraft will turn east and then north toward the drop zone. Aircraft traveling along these flight paths will observe a 2000 AGL limit when passing over the Sevilleta NWR. There are no elevation restrictions along other portions of the flight path, including the Isleta Indian Reservation.

EMRTC has surveyed the drop zone area for cultural resources and found none. Should any cultural resources be discovered during drop zone operations, then appropriate protocols would be followed in accordance with the National Historic Preservation Act to ensure the resources are documented and appropriate consultations take place.

EMRTC has enclosed an environmental assessment of the undertaking for your review and comment. Please direct questions, or responses at your earliest convenience to Mr. Dennis Hunter at EMRTC, 801 Leroy Place, Socorro, NM 87801; 505-835-5312 telephone; 505-835-5630 fax; dennis@emrtc.nmt.edu email.

Sincerely,

Dennis Hunter
Associate Director of Safety, Security & Training
EMRTC

OFFICE OF THE GOVERNOR

505-869-3111 / 6333
FAX: 505-869-4236

PUEBLO OF ISLETA
P.O. BOX 1270 ISLETA, NM 87022

September 5, 2007

New Mexico Tech
Energetic Materials Research
And Testing Center
Dennis Hunter
801 Leroy Place
Socorro, NM 87801

Dear Mr. Hunter:

This letter is in response to your correspondence dated August 20, 2007 regarding the proposed undertaking establishing drop zone at the Energetic Materials Research and Testing Center in Socorro, New Mexico.

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

Robert Benavides,
Governor

cc: files

New Mexico Tech
ENERGETIC MATERIALS RESEARCH AND TESTING CENTER
801 Leroy Place Socorro, NM 87801
Phone: (505) 835-5312 Fax: (505) 835-5630 http://www.emrtc.nmt.edu

August 20, 2007

Leigh Kuwanwisiwma
Hopi Tribe Cultural Preservation Office
P.O. Box 123
Kykotsmovi, AZ 86039

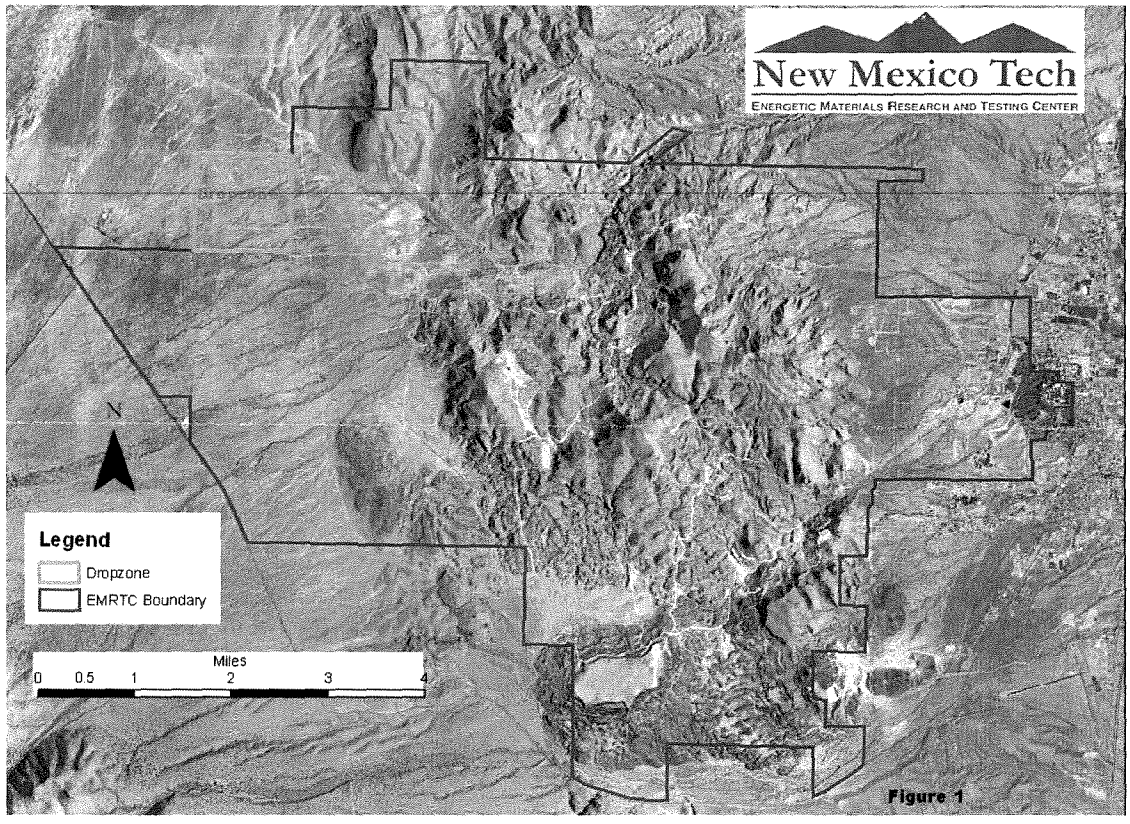
Subject: Proposed Undertaking Establishing a Drop Zone at the Energetic Materials Research and Testing Center in Socorro, New Mexico

On behalf of the New Mexico Institute of Mining and Technology, the Energetic Materials Research and Testing Center (EMRTC) is notifying you of the proposed project noted above. In accordance with Section 106 of the National Historic Preservation Act and its implementing regulations, 36 CFR Part 800, EMRTC wishes to continue its consultation process with appropriate, federally recognized tribes who historically used this region and continue to use the area. We welcome your comments on this undertaking and look forward to hearing any concerns you may have regarding known sacred sites or other traditional cultural properties within the proposed project area.

EMRTC owns and operates a 40-square-mile field laboratory located in the mountains adjacent to the New Mexico Tech campus in Socorro, New Mexico. The field laboratory contains over 30 test sites, gun ranges, storage sites, and other research facilities, allowing for a complete spectrum of research and testing activities. EMRTC proposes to establish a drop zone within the boundaries of the field laboratory. Drop zone operations will be consistent with present land use. The drop zone would be available to a variety of clients, with the primary client being the 58th Special Operations Wing (SOW) based at Kirtland AFB. Airdrops would consist of personnel and cargo drops.

The proposed drop zone (defined as the area of potential effect) consists of approximately 640 acres (one square mile) of land and associated airspace in the western area of EMRTC's field laboratory in Socorro County, New Mexico as identified in the figure below. The drop zone includes Section 33, Township 2 South, Range 2 West. The land is undeveloped and rural in nature. Terrain is relatively flat, free of any significant slopes, hills, mountains, rills, gullies, or other notable geologic features.

Proposed Drop Zone Aerial and Boundaries



Before drop zone operations begin, two to four personnel will arrive at the designated drop zone to ensure that the area is clear of obstacles such as people, wildlife, cattle trucks, and other equipment. When the airdrops are completed, ground personnel will recover dropped bundles. It is anticipated that C-130 type aircraft would be the primary airframe to utilize the drop zone. Training missions could be conducted up to three times a day, up to five days a week.

A standard cargo airdrop practice operation would include an average of 15 passes across a drop zone for the following purposes:

- an initial pass to familiarize the aircrew with the area and any obstacles that might affect the dropped objects;
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EMRTC has enclosed an environmental assessment of the undertaking for your review and comment. Please direct questions, or responses at your earliest convenience to Mr. Dennis Hunter at EMRTC, 801 Leroy Place, Socorro, NM 87801; 505-835-5312 telephone; 505-835-5630 fax; dennis@emrtc.nmt.edu email.

Sincerely,

Dennis Hunter
Associate Director of Safety, Security & Training
EMRTC

The Hopi Tribe has determined that this project will NOT affect cultural resources significant to us.

for Kuwanwisiwma

THE NAVAJO NATION

JOE SHIRLEY, JR.
PRESIDENT

BEN SHELLY
VICE-PRESIDENT

October 08, 2007

Mr. Dennis Hunter, Assoc. Director of Safety
New Mexico Tech
Energetic Materials Research & Testing Center
801 Leroy Place
Socorro, New Mexico 87801

Dear Mr. Hunter:

Subject: Tribal Consultation Request, proposed undertaking to establish a Drop Zone at the Energetic Materials research and Testing Center in Socorro, New Mexico

Our apology for an oversight and missing the deadline date of our response to your request, please note that in reference to your letter of August 20, 2007, the Historic Preservation Department – Traditional Culture Program (HPD-TCP) received a request for consultation regarding the above undertaking and/or project. After reviewing your consultation documents, HPD-TCP has concluded the proposed undertaking/project area **will not impact** any Navajo traditional cultural properties or historical properties.

However, if there are any inadvertent discoveries made during the course of the undertaking your agency shall cease all operations within the project area. HPD-TCP shall be notified by telephone within 24 hours, and a formal letter shall be sent within 72 hours. All work shall be suspended until mitigation measures/procedures have been developed in consultation with the Navajo Nation.

The HPD-TCP appreciates your agency's consultation efforts, pursuant to 36 CFR Pt. 800.1 (c)(2)(iii). Should you have additional concerns and/or questions, do not hesitate to contact me. My contact information is listed below.

Sincerely,

Mr. Tony Joe, Program Manager
Historic Preservation Department – Traditional Culture Program

Tel: 928.871.7688 Fax: 928.871.7886 E-mail: tonyjoe@navajo.org

TCP 08-020
File: Office file/chrono

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

October 12, 2007

Mr. Dennis Hunter
[redacted]

Dear Mr. Hunter:

RE: Proposed Undertaking Establishing a Drop Zone at the Energetic Materials Research and Testing Center in Socorro

The Pueblo of Laguna appreciates your consideration to comment of possible interest your project may have on any traditional or cultural properties.

The Pueblo of Laguna has determined that the proposed undertaking WILL NOT have a significant impact at this time. However, in the event that any new archaeological sites are discovered and any artifacts are recovered, we would like to be notified to review items and if possible furnish photographs of items.

We thank you and your staff for the information provided.

Sincerely,

John E. Antonio, Governor
Pueblo of Laguna

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

JUL 21 2007

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.cfm. 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. We appreciate your efforts to identify and avoid impacts to listed and sensitive species in your project area.

Sincerely,

Wally Murphy
Field Supervisor

5.4.

ORGANIZATIONAL STRATEGIES, INC.
1436 South Legend Hill Drive
Suite 140
Clearfield, UT 84015
Phone: (801) 773-6459
Fax: (801) 525-1175

Mr. Brian Hanson
Assistant Field Supervisor
US Fish and Wildlife Service
New Mexico Ecological Services Field Office
2105 Osuna Road, NE
Albuquerque, NM 87113

Subject: Proposed Drop Zone at the Energetic Materials Research and Testing Center in Socorro, New Mexico

Dear Mr. Hanson,

OSI has been designated by Energetic Materials Research and Testing Center (EMRTC) to initiate and coordinate the section 7 consultation process for the proposed action described above.

EMRTC owns and operates a 40-square-mile field laboratory located in the mountains adjacent to the New Mexico Tech campus in Socorro, New Mexico. The field laboratory contains over 30 test sites, gun ranges, storage sites, and other research facilities, allowing for a complete spectrum of research and testing activities. EMRTC proposes to establish a drop zone within the boundaries of the field laboratory. Drop zone operations will be consistent with present land use. The drop zone would be available to a variety of clients, with the primary client being the 58th Special Operations Wing (SOW) based at Kirtland AFB. Airdrops would consist of personnel and cargo drops.

The proposed drop zone consists of approximately 640 acres (one square mile) of land and associated airspace in the western area of EMRTC's field laboratory in Socorro County, New Mexico as identified in the figure below. The drop zone includes Section 33, Township 2 South, Range 2 West. The land is undeveloped and rural in nature. Terrain is relatively flat, free of any significant slopes, hills, mountains, rills, gullies, or other notable geologic features. There are no wetlands or surface waters within the area.

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

July 31, 2007

Cons. # 22420-2007-I-0088

Mr. Gary Armstrong
Organizational Strategies, Inc.
1436 S Legend Hills Drive, Suite 140
Clearfield, Utah 84015

Dear Mr. Armstrong:

Thank you for your July 11, 2007, letter requesting consultation on the draft environmental assessment (EA) establishing a drop zone (DZ) at the energetic materials research and testing center (EMRTC) in Socorro, New Mexico. The environmental assessment evaluates the effects of establishing a DZ at EMRTC's field laboratory on the endangered experimental nonessential northern aplomado falcon (*Falco femoralis septentrionalisi*). The proposed DZ would be within the EMRTC's 40 square mile facility in Socorro County. Airdrops would consist of personnel and cargo drops. When the airdrops would be completed, ground personnel would recover dropped bundles and place them in military vehicles for transport. It is anticipated that C-130 type aircraft would be the primary airframe to utilize the drop zone. Training missions would be conducted up to three times a week. This consultation is based on information provided in the draft EA dated July 11, 2007.

The New Mexico Tech EMRTC has determined that the missile tests "is not likely to jeopardize" the experimental nonessential northern aplomado falcon. The Service concurs with your determinations for the following reasons: 1) The proposed actions will take place within habitat considered unsuitable for northern aplomado falcons, thus minimizing potential to affect falcons; and 2) Debris fall from airdrops would be limited to a 40 square mile area within the greater falcon foraging range, thus minimizing the possibility of impacts from this portion of the proposed action. This concludes section 7 consultation for the northern aplomado falcon.

Please contact the Service if: 1) future surveys detect listed, proposed or candidate species in habitats where they have not been previously observed; 2) the airdrops are changed or new information reveals effects of the proposal to listed species that have not been considered in this analysis; or 3) a new species is listed or critical habitat designated that may be affected by the action.

Thank you for your concern for endangered species and New Mexico's wildlife habitats. We appreciate the analyses provided in the letter and the EA and your efforts to protect endangered and threatened species. In future communications regarding this project please refer to

Consultation #22420-2007-I-0088. If you have any questions, please contact Santiago Gonzales of my staff at the letterhead address or at (505) 761-4720.

Sincerely,

Wally Murphy
Field Supervisor

cc:
Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico
Director, New Mexico Energy, Minerals, and Natural Resources Department, Forestry Division, Santa Fe, New Mexico

ORGANIZATIONAL STRATEGIES, INC.
1436 South Legend Hill Drive
Suite 140
Clearfield, UT 84015
Phone: (801) 773-6459
Fax: (801) 525-1175

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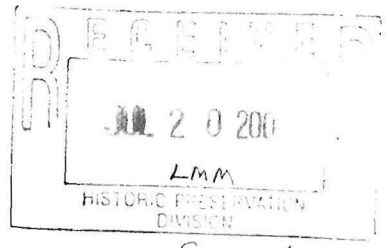


See also HPD 8175

Ms. Katherine Slick
New Mexico Historic Preservation Division
Department of Cultural Affairs
Historic Preservation Division
407 Galisteo Street, Suite 236
Santa Fe, NM 87501

Subject: Proposed Undertaking Establishing a Drop Zone at the Energetic Materials Research and Testing Center in Socorro, New Mexico

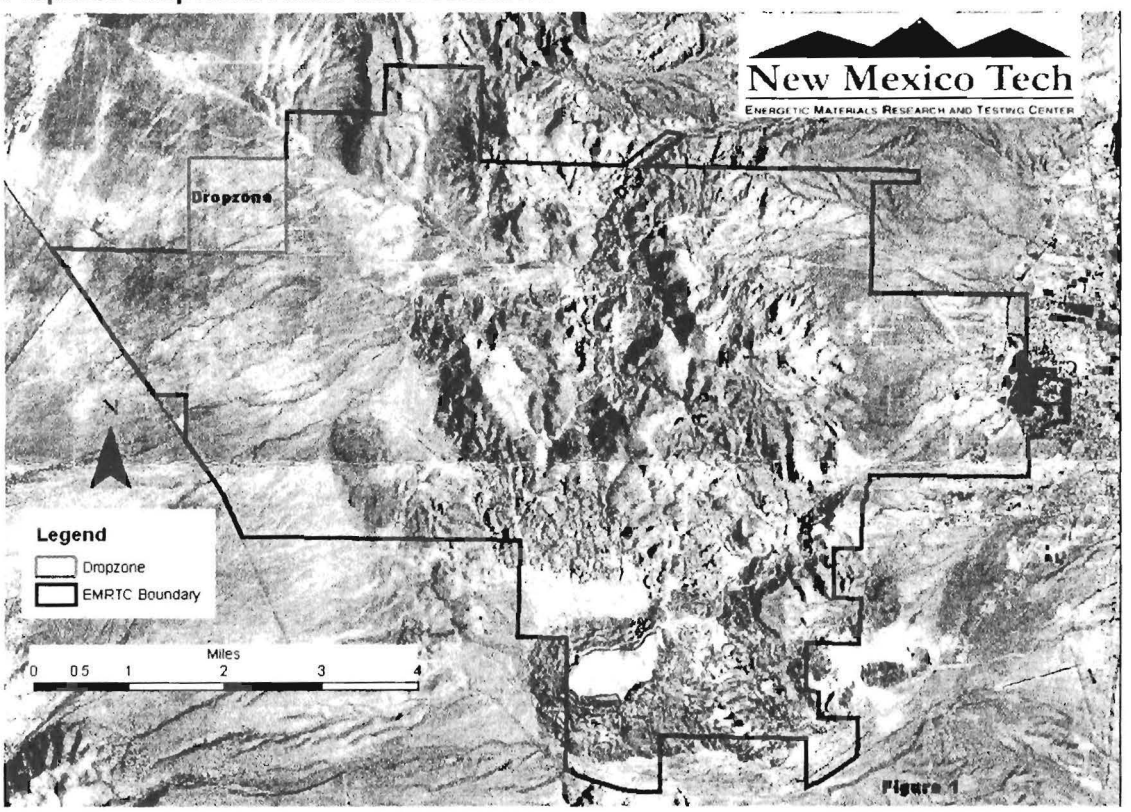
Ms. Slick:

OSI has been designated by Energetic Materials Research and Testing Center (EMRTC) to initiate and coordinate the section 106 consultation process with the New Mexico State Historic Preservation Office regarding the proposed action described above. No other consulting parties have been identified that would be expected to have cultural interests in the subject undertaking. Federal and state funding will be used for the undertaking.

EMRTC owns and operates a 40-square-mile field laboratory located in the mountains adjacent to the New Mexico Tech campus in Socorro, New Mexico. The field laboratory contains over 30 test sites, gun ranges, storage sites, and other research facilities, allowing for a complete spectrum of research and testing activities. EMRTC proposes to establish a drop zone within the boundaries of the field laboratory. Drop zone operations will be consistent with present land use. The drop zone would be available to a variety of clients, with the primary client being the 58th Special Operations Wing (SOW) based at Kirtland AFB. Airdrops would consist of personnel and cargo drops.

The proposed drop zone (defined as the area of potential effect) consists of approximately 640 acres (one square mile) of land and associated airspace in the western area of EMRTC's field laboratory in Socorro County, New Mexico as identified in the figure below. The drop zone includes Section 33, Township 2 South, Range 2 West. The land is undeveloped and rural in nature. Terrain is relatively flat, free of any significant slopes, hills, mountains, rills, gullies, or other notable geologic features.

Proposed Drop Zone Aerial and Boundaries



Before drop zone operations begin, two to four personnel will arrive at the designated drop zone to ensure that the area is clear of obstacles such as people, wildlife, cattle trucks, and other equipment. When the airdrops are completed, ground personnel will recover dropped bundles. It is anticipated that C-130 type aircraft would be the primary airframe to utilize the drop zone. Training missions could be conducted up to three times a day, up to five days a week.

A standard cargo airdrop practice operation would include an average of 15 passes across a drop zone for the following purposes:

- an initial pass to familiarize the aircrew with the area and any obstacles that might affect the dropped objects;
- an average of ten passes to drop simulated rescue bundles/kits (orange nylon bags measuring 2 feet by 3 feet, filled with rubber ballast (each weighing approximately 45 pounds). Half of these drops would occur with parachutes attached to the bundles from an elevation of 300 feet above ground level (AGL) and half would occur with no parachute (freefall) from an elevation of 150 feet AGL;
- two passes to drop a group of five rescue bundles connected by long tethers; and
- two passes to drop simulated airdrop training bundles (sandbags weighing approximately 15 pounds each).

Large simulated cargo pallets weighing up to 3,200 pounds would be dropped with only one pass over the drop zone. These drops would occur an average of once per month. A large fork lift would be brought to the site in order to recover the dropped pallet. Some off-road travel by the fork lift would be necessary for recovery of the pallets, but would be minimized as much as possible. With the exception of the forklift for the heavy loads, only existing roads would be used

to recover dropped cargo and personnel; no construction or terrain modification would be required.

On other training missions, personnel drops would occur from no lower than 800 feet AGL and all personnel dropped would use static lines. One person would jump on each pass and the average number of jumpers would be eight. Personnel drops would occur primarily during the day (80 percent). Recovery of personnel would occur on existing dirt roads.

Aircraft flying from Kirtland AFB to the drop zone will fly in a southwesterly direction until they arrive at the target area. It is anticipated that aircraft will generally follow the Rio Grande/I-25 corridor from Albuquerque to Socorro. The anticipated travel corridor from Albuquerque to Socorro traverses relatively barren areas where noise sensitive resources should not exist. Initially, aircraft using this flight path will cross an unpopulated section of the Isleta Indian reservation. Once the aircraft are in flight they will cross an uninhabited region of mixed ownership, including BLM lands, Forest Service lands, state lands, and private property. Aircraft may fly over the Sevilleta National Wildlife Refuge, an area with sensitive noise resources, if they maintain a flight altitude of at least 2,000 feet AGL. South of the refuge they will traverse a mostly uninhabited area of BLM and state lands. South of Socorro, aircraft will turn east and then north toward the drop zone. Aircraft traveling along these flight paths will observe a 2000 AGL limit when passing over the Sevilleta NWR. There are no elevation restrictions along other portions of the flight path, including the Isleta Indian Reservation.

Public involvement is being done concurrently with the National Environmental Policy Act (NEPA) process for this project. EMRTC has prepared an environmental assessment for the undertaking and will send a copy for your review and comment as soon as it is available. A notice of availability will be published in local newspapers and copies will be provided to various public libraries. Additionally, the document will be made available on the EMRTC website. If you do not wish to receive a hard copy of the assessment, please notify us.

EMRTC has conducted cultural resource inventories of the drop zone area and has identified some lithic scatter. However, these items were determined by the New Mexico State Historic Preservation Office to be ineligible for the National Register. Should any cultural resources be discovered during drop zone operations, then appropriate protocols would be followed in accordance with the National Historic Preservation Act to ensure the resources are documented and consultation with the New Mexico State Historic Preservation Officer occurs.

EMRTC has concluded that the proposed undertaking is consistent with current land use practices within the area and that no historic properties listed or eligible for listing within the National Register of Historic Places will be affected. We request your concurrence with this determination.

Sincerely,

Kathryn Child

Kathryn Child
Environmental Consultant

Please call if you have any questions.
505-827-7824

Lina M Mayer
7/31/07

COMMENTS

Thank you for the information.
for NM State Historic Preservation Officer
The SHPO will need to consult with the lead federal agency when asked to concur on project effects or site eligibility. Also the SHPO will need documentation of the lead federal agency's tribal consultation efforts, and cultural resources survey report.

New Mexico Tech
ENERGETIC MATERIALS RESEARCH AND TESTING CENTER
801 Leroy Place Socorro, NM 87801
Phone: (505) 835-5312 Fax: (505) 835-5630 http://www.emrtc.nmt.edu

Ms. Katherine Slick
New Mexico Historic Preservation Division
Department of Cultural Affairs
Historic Preservation Division
407 Galisteo Street, Suite 236
Santa Fe, NM 87501

October 24, 2007

Subject: Consultation Number 081827: Proposed Undertaking Establishing a Drop Zone at the Energetic Materials Research and Testing Center in Socorro, New Mexico

Ms. Slick:

In accordance with Section 106 of the National Historic Preservation Act (NHPA) and its implementing regulations, 36 CFR 800, New Mexico Tech, Energetic Materials Research and Testing Center (EMRTC), is continuing the consultation process with your office regarding the proposed project noted above.

EMRTC owns and operates a 40-square-mile field laboratory located in the mountains adjacent to the New Mexico Tech campus in Socorro, New Mexico. The field laboratory contains over 30 test sites, gun ranges, storage sites, and other research facilities, allowing for a complete spectrum of research and testing activities. EMRTC proposes to establish a drop zone within the boundaries of the field laboratory. Drop zone operations will be consistent with present land use. The drop zone would be available to a variety of clients, with the primary client being the 58th Special Operations Wing (SOW) based at Kirtland AFB. Airdrops would consist of personnel and cargo drops.

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On other training missions, personnel drops would occur from no lower than 800 feet AGL and all personnel dropped would use static lines. One person would jump on each pass and the average number of jumpers would be eight. Personnel drops would occur primarily during the day (80 percent). Recovery of personnel would occur on existing dirt roads.

Aircraft flying from Kirtland AFB to the drop zone will fly in a southwesterly direction until they arrive at the target area. It is anticipated that aircraft will generally follow the Rio Grande/I-25 corridor from Albuquerque to Socorro. The anticipated travel corridor from Albuquerque to Socorro traverses relatively barren areas where noise sensitive resources should not exist. Initially, aircraft using this flight path will cross an unpopulated section of the Isleta Indian reservation. Once the aircraft are in flight they will cross an uninhabited region of mixed ownership, including BLM lands, Forest Service lands, state lands, and private property. Aircraft may fly over the Sevilleta National Wildlife Refuge, an area with sensitive noise resources, if they maintain a flight altitude of at least 2,000 feet AGL. South of the refuge they will traverse a mostly uninhabited area of BLM and state lands. South of Socorro, aircraft will turn east and then north toward the drop zone. Aircraft traveling along these flight paths will observe a 2000 AGL limit when passing over the Sevilleta NWR. There are no elevation restrictions along other portions of the flight path, including the Isleta Indian Reservation.

Public involvement was completed concurrently with the National Environmental Policy Act (NEPA) process for this project. The draft environmental assessment (DEA) was made available to the public for review and comment beginning July 23, 2007. Notices of Availability of the DEA were published in the *Albuquerque Journal* and the *El Defensor Chieftain* newspapers. Comments were received and accepted through September 14, 2007, for consideration in the final environmental assessment (FEA) and finding of no significant impact (FONSI).

Public comments that were received were related to safety, the frequency of drop zone activities, and noise. There were no comments related to cultural resources.

EMRTC identified thirteen federally recognized Indian tribes with potential interest in the area of potential effect. Consultation was initiated with the tribes and no concerns were noted. Four tribes responded: the Pueblo of Isleta stated that the proposed undertaking would not have an impact on religious or cultural sites affiliated with the tribe; the Hopi Tribe determined that the proposed undertaking would not affect cultural resources that are significant to the tribe; the Navajo Nation concluded that the proposed undertaking will not impact any Navajo traditional cultural properties or historic properties; and the Pueblo of Laguna determined that the proposed undertaking will not have a significant impact. A list of the tribes that were contacted and all related correspondence are included with this correspondence (Attachment 2).

EMRTC has conducted cultural resource inventories[1] of lands near the proposed drop zone and has not identified the presence of any cultural resources that would be eligible for the National Register of Historic places. Should any cultural resources be exposed through the use of the DZ as soils are disturbed, appropriate protocols in accordance with the National Historic Preservation Act would ensure the resources are documented and consultation with the New Mexico State Historic Preservation Officer would occur.

All section 106 consultation related to the proposed undertaking has been completed. EMRTC has concluded that no historic properties listed or eligible for listing within the National Register of Historic Places will be affected by the proposed undertaking and requests your concurrence.

Sincerely,

Dennis Hunter
Associate Director of Safety, Security & Training
EMRTC

Attachments:
1 – Proposed EMRTC Drop Zone Topographic Map
2 – Indian Tribes Consulted and Correspondence

[1] Cultural Resource Inventory of 13.48 Sections Above 5000 Ft in the Socorro Mountain Range, Central New Mexico. By Cye Williams Gossett & William Gossett, March 1 1990. Submitted under permit number BLM 17-2920-86-B

Appendix B: Comments and Responses

Appendix B includes first, a table that includes all the comments received during the public review of the Draft EA, as well as responses directly addressing each comment. Additionally, copies of the comment letters are included.

Comments	Responses
"The map in the DEA showing the proposed drop zone is highly deceptive. It does not show the relation of the proposed drop zone to the City of Socorro. It does not clearly mark Highway 60, which passes very near to the proposed drop zone. As close as we can tell, the proposed drop zone will be within one mile of Highway 60, and within 4 miles of New Mexico Tech's main campus and the City of Socorro."	Maps have been improved in the Final EA. Figure E-1and Figure 2-1 show improved labeling. Section 4.2.2 addresses the specific safety concerns and provides details about the distances from the proposed drop zone to Highway 60 and the City of Socorro. "The drop zone is approximately 8.98 miles from the City of Socorro, 9.36 miles from the Socorro Airport, and 1.16 miles to Highway 60."
"The DEA is unclear about how many flights will be made to the proposed drop zone. On p. 4 it says "Training missions could be conducted up to three times a day, up to five days a week. A standard cargo airdrop practice operation would include an average of 15 passes across a DZ" What is not clear is how many planes there will be per mission. Nor is a maximum number of passes stipulated. Given the standard average, it is reasonable to expect that there could be 225 passes across the proposed drop zone per week. But nothing in the report precludes there being as many as 2,000 passes per week over the drop zone."	Chapter 2 provides a description of the proposed action. This includes a description of the number of flights, and description of the training missions. Representative photographs of drop zone activities have been included in the Final EA to better clarify the flight patterns once the aircraft reach the drop zone. Addressing the number of training missions, Chapter 2 states: *"Training missions could be conducted up to three times a day, up to five days a week, 48 weeks per year. This results in up to 720 training missions per year. (This is considered the maximum number that will occur for purposes of analysis. However, if weather conditions or other variables are not favorable, missions will not take place so realistically, there will be less than 720 missions per year. But for analysis purposes, the maximum number of 720 missions/year was used to demonstrate the maximum potential impacts.)"* Further clarification, considering that there could be up to 15 training missions per week, with up to 15 passes over the drop zone per mission, up to 225 passes over the drop zone could occur in any given week. As is indicated in the graphic on page 9, once within the Drop Zone, aircraft would follow a "box" pattern for each pass. These passes would occur within 2 ½ to 3 miles from the center point of the drop zone, over lands in the far NW area of EMRTC Field Lab, and all on the west side of Socorro Peak.

"Each pass over the proposed drop zone could require a plane to pass over Highway 60. That will depend on where in the proposed drop zone the drop is meant to be made and the prevailing weather conditions. There are no elevation restrictions on the flight path of the planes except over Sevilleta Wildlife Refuge. Drops may be made from as low as 150 feet above the ground level. A person driving along Highway 60 who suddenly sees a C-130 transport plane bearing down at nearly 200 miles per hour only 150 feet above them could easily cause panic, creating an accident. Given the terrain of Highway 60, an accident in that area has significant potential of being fatal. Even if a plane were to pass 300 or 400 feet above a car or truck, the danger of creating panic is substantial. Placing elevation restrictions on the flight path of the planes to keep them substantially higher over Highway 60 would not be possible if they are to make their drops at 150 feet, or even at 300 feet.	In consultation with the Sevilleta National Wildlife Refuge (as required by the Endangered Species Act), U.S. Fish and Wildlife Service has requested that all Air Force aircraft maintain an elevation of 2,000 AGL while flying over the Refuge. The 58th SOW follows this requirement. Aircraft en route to use the proposed Drop Zone would follow the same requirement. In relation to safety relative to Highway 60, Section 4.2.2.1 address this issue. From that section: *"Concern for ground safety related to vehicle traffic along Highway 60 during drop zone activities was expressed in the public review of the Draft EA. It was noted that drivers in vehicles on Highway 60 may be distracted by low-level flights taking place over the DZ. Drivers face many distractions on any highway, including cell phone use, scenery, wildlife, and other vehicles. Aircraft flights are common occurrence in most areas across the United States, and military aircraft flights are very common in many areas of New Mexico. Evidence is not available that indicates aircraft over flight has any sort of impact on traffic accidents in the positive or negative. Traffic in areas with much higher vehicle counts and much higher levels of low level air traffic (Interstate 25 and other roads around the Albuquerque Sunport and Kirtland AFB as an example) do not show increases in accidents as a result from distractions caused by low-level aircraft. This does not constitute a significant impact."*
"The DEA says that the proposed drop zone will be used for dropping large bundles/kits, weighing up to 3,200 pounds and to make "personnel drops". These will be training missions, and it is not to be expected that the pilots are already perfectly expert in making drops. Given unfavorable weather conditions and/or an inexperienced pilot, or even just a momentary lapse of attention of a pilot, a bundle that is dropped with a parachute could go astray and land on Highway 60, again creating a very dangerous situation for drivers if not actually hitting a vehicle. Parachutists could be blown across Highway 60 or even as far as the City of Socorro, again creating very dangerous conditions.	Section 4.2.2.1 address this issue. From that section: *Concern for potential for bundles to miss targets has been expressed in the public review of the Draft EA. When training operations are taking place, the aircraft and aircrew are under the command of experienced instructors at all times. If conditions are not right for drop zone activities, drops are not made. Accuracy of drops is of utmost importance in drop zone activities. Greater than 90% of all drops land less than 100 meters of the target. No drops land outside the drop zone. Multiple safety procedures do not make it possible for drops to occur outside the drop zone, as bay doors are opened only when the aircraft is over the drop zone. The drop zone is approximately 8.98 miles from the City of Socorro, 9.36 miles from the Socorro Airport, and 1.16 miles to Highway 60. Additionally, flights will not occur over the*

	City of Socorro when engaged in drop zone training missions, so there is no potential for any accidental drops over residences or other structures within the City of Socorro. This area was deliberately identified because of the open and undeveloped nature of the landscape, and lack of any structures, providing even greater safety during all activities.
"Depending on where in the proposed drop zone is meant to be made and the prevailing weather conditions, flights to the proposed drop zone and possible passes over the drop zone will pass over the campus of New Mexico Tech and the City of Socorro. Since there are no elevation restrictions proposed, the same potential for creating vehicle accidents as described above exists within the campus and the City of Socorro. Since there is no elevation restriction, nor likely to be one possible if the drops are to be made at a height useful for the training of the pilots, the noise over the City of Socorro will be very substantial. The DEA gives in Table 4-3 the likely noise that the operations would create. It does not agree with table 4-2 which gives the noise level of a C-130 at various altitudes above ground level. Table 4-3 says that half the time the altitude of the planes will be at 250-500 feet AGL, and half the time it will be 500-1000 feet AGL. According to Table 4-2, at 250-500 feet AGL the noise created will be between 101.2 decibels and 96.5 decibels. At 500-1000 feet AGL, the noise created will be between 96.5 decibels and 91.4 decibels. Hence, Table 4-3 cannot be right in predicting an average sound level for each pass of 78.6 decibels.	Standard safety protocols of the 58th SOW will not allow for drop zone missions to be conducted if weather conditions pose a significant threat to aircrew or ground conditions. Simply stated, if weather conditions are such that drops would "drift" out of the drop zone, missions will not be conducted. Related to over flight over the City of Socorro, low level flights over the city will not occur. The location of the City relative to Socorro Peak make this area unfavorable for flying and would cause aircraft to go considerably off preferable flight paths to get to the proposed Drop Zone. Section 4.2.4 addresses noise impacts. Numbers in Table 4-3 have been corrected. To restate, up to 720 training missions per year could be conducted. The purpose of the Drop Zone is to conduct activities in an area free of sensitive noise zones such as residences, hospitals, schools, etc…. Noise impacts of flights going to and from the proposed Drop Zone will not cause significant noise impacts, as they have been defined.
"Moreover, Table 4-3 gives the number of proposed operations as 3,150 daytime operations and 900 nighttime operations. We hope, but nowhere is it stipulated that this is per year and not per month or week. Again, it does not say whether an operation is one plane or many. This number is very much higher than the number of "operations" given on p. 4 (3 operations/day at 5 days/week = 750 operations, not 3,150 + 900 = 4,150 operations). Nor is there reason to think that this number could not be increased. But even with just one plane per operation and only one-quarter of those passing over the City of Socorro, there will be 787 flights per year during the day creating noise, and 225 flights per year at night creating noise."	Table 4-3 has been corrected. In summary, as identified in Chapter 2 – the description of the Proposed Action: *"Training missions could be conducted up to three times a day, up to five days a week, 48 weeks per year. This results in up to 720 training missions per year. (This is considered the maximum number that will occur for purposes of analysis. However, if weather conditions or other variables are not favorable, missions will not take place so realistically, there will be less than 720 missions per year. But for analysis purposes, the maximum number of 720 missions/year was used to demonstrate the maximum potential impacts.)"* Should the number of training missions be increased beyond the 720 considered for this analysis, the environmental assessment would have to be amended to consider the greater impacts that would occur.

"The DEA says on p. 19, "Noise impacts to the Socorro community would consist only of over fight that could occur as aircraft fly to and from the DZ. However, these portions of the flights would be at higher altitude. If a flyover of the community does occur, noise impacts would be brief and limited only to the actual duration of the flyover." There is no elevation restriction imposed on aircraft flying over the City of Socorro, and from the experience of residents with current military flights in this area, even if there were a restriction it would be regularly violated. Moreover, low-flying planes going over the Socorro community at even 1,000 feet as often as noted above, day and night, would create a new and quite substantial disturbance to the residents. Table 3-1 shows that the noise would be at a level between a lawn mower and a tractor/bulldozer, which is more than sufficient to wake people at night and to disrupt their conversations or other listening activities during the day.	Airspace over the City of Socorro, and all the area within the proposed Drop Zone is classified as Class E or Class G airspace by the FAA. No special flight elevation restrictions apply to these classes of airspace. Noise impacts resulting from aircraft flying to and from the proposed Drop Zone are identified in Chapter 4, in Section 4.2.4. Chapter 3 provides a description of the existing environment, or current conditions, and points of comparison of noise impacts in Section 3.5.1. As noted, noise impacts will occur as a result of the proposed action. However, these impacts are not considered significant.
"There is no way to ensure safety and freedom from excessive noise for people of Socorro area that is compatible with low-level air drops on the proposed drop zone."	All actions are conducted with safety as the primary goal of every training mission. Multiple and redundant procedural protocols are followed at all times to ensure that all missions are conducted in safe, efficient and effective ways. As noted, noise impacts will occur as a result of the proposed action. However, these impacts are not considered significant.
The DEA says in many places that there is no alternative to the use of unsatisfactory drop zones elsewhere if the proposed drop zone is not instituted. Now where in the DEA is the use of White Sands Missile Range for a drop zone investigated. A drop zone there would not entail any of the problems to people described above and would be only slightly further from Kirtland Air Force Base. Nor is any reason given for why more remote areas in this vicinity would be unsuitable. It appears that no alternatives were examined."	NEPA stipulates that the environmental consequences of major federal actions be identified in an environmental assessment, and that the analysis include at a minimum, the proposed action (preferred alternative) and the No Action Alternative. This was considered in the Draft EA. Additionally, Chapter 2 includes a section titled "Alternatives Considered but Not Carried Forward for Analysis." The choice to not consider White Sands Missile Range in presented. Additionally, this section identifies why this EA considers only a Drop Zone at EMRTC.
"We're told that big cargo planes will drop 45-pound and larger bundles along with "personnel drops." " How often? Well, after plowing through the EA, I get conflicting info. Either they're going to do it three times a day up to five times a week all year, or only three times a week for most of the year. "Depending upon which EA figure is correct that	Cargo bundles will be dropped from C-130 or similar aircraft as outlined in Chapter 2 – The Proposed Action. This chapter in the Final EA has been updated to include photographs and more detailed descriptions of the drop zone activities. Addressing the number of training missions, Chapter 2 states: *"Training missions could be conducted up to three times a day, up to five days a week, 48 weeks per year. This results in up to 720*

means Socorro folks will see more than 2,000 or as many as almost 11,000 flights of the giant C-130s in the area each year."	*training missions per year. (This is considered the maximum number that will occur for purposes of analysis. However, if weather conditions or other variables are not favorable, missions will not take place so realistically, there will be less than 720 missions per year. But for analysis purposes, the maximum number of 720 missions/year was used to demonstrate the maximum potential impacts.)"*
"Not enough analysis is done on "noise impacts." Charts in the document note that low-flying C-130s hit the noise meter somewhere between a lawnmower and a table saw, and just maybe 15-20 decibels beneath the pain threshold."	Noise impacts resulting from aircraft flying to and from the proposed Drop Zone are identified in Chapter 4, in Section 4.2.4. Chapter 3 provides a description of the existing environment, or current conditions, and points of comparison of noise impacts in Section 3.5.1. As noted, noise impacts will occur as a result of the proposed action. However, these impacts are not considered significant.
"And how about the chances of stuff, perhaps high-tonnage, falling into my backyard, or on somebody in Socorro?"	Section 4.2.2.1 address this issue. From that section: *Concern for potential for bundles to miss targets has been expressed in the public review of the Draft EA. When training operations are taking place, the aircraft and aircrew are under the command of experienced instructors at all times. If conditions are not right for drop zone activities, drops are not made. Accuracy of drops is of utmost importance in drop zone activities. Greater than 90% of all drops land less than 100 meters of the target. No drops land outside the drop zone. Multiple safety procedures do not make it possible for drops to occur outside the drop zone, as bay doors are opened only when the aircraft is over the drop zone. The drop zone is approximately 8.98 miles from the City of Socorro, 9.36 miles from the Socorro Airport, and 1.16 miles to Highway 60. Additionally, flights will not occur over the City of Socorro when engaged in drop zone training missions, so there is no potential for any accidental drops over residences or other structures within the City of Socorro. This area was deliberately identified because of the open and undeveloped nature of the landscape, and lack of any structures, providing even greater safety during all activities*
"Not enough analysis is done to support the conclusion that there are no considerations with regards to "environmental justice." The EA only includes a chart that shows that over half of the Socorro County population is minority (tribal & Latino) and with some 20 percent living in poverty but does not say why they would not be impacted because none of them live exactly in the zone. But aren't their indirect impacts from the operations outside the zone?"	Section 4.2.9 addresses environmental justice issues. No disproportionate impacts to low-income or minority populations would occur from the implementation of the proposed action. The impacts associated with the proposed action are the result of aircraft flying to and from the proposed Drop Zone. Aircraft flight paths are determined by geographical features, weather patterns, and pre-established flight corridors, completely independent of any ground features that might indicate disproportionate impacts

	based upon income or minority status.
"Why does the Air Force need to move to Socorro? They already have drop zones near Roswell's airport, which used to be an Air Force base. The conclusion that driving down to retrieve the bundles costs too much is not supported by any facts or figures detailing the costs."	The purpose and need of the proposed action is detailed in Chapter 1 of the Final EA. Specific financial costs comparison have been added to Section 1.2. To summarize those numbers, labor costs to use Roswell vs. EMRTC are 5 times more, plus additional travel costs including lodging and meals for ground support crews, (Approximately $121,920.00 per year) not to mention added fuel costs for aircraft and ground vehicles.
"There's a lot of unanswered questions, and skim-over, conflicting answers and that's why I support extending the comment period. Also, the EA wasn't immediately available on line, depriving some people the opportunity to review the document.	The comment period was formally set from July 23 to August 22, 2007, or for 30 days. Comments were received and accepted through September 14, 2007. No comments were received after September 14. In referencing Air Force Instruction 32-1076 (The Environmental Impact Analysis Process), 32 CFR Part 989, and 40 CFR Section 1506.6 (b and c), the process for comment periods for EAs are outlined. These procedures have been followed. Internet accessibility for the document is not required. All requests for the document following published notice in local and regional newspapers were met. No comments received have been rejected because they came after the deadline.
A public meeting on the proposal might also be helpful in answering questions.	There was no public hearing on the Drop Zone at EMRTC. Public hearings are not required when completing environmental assessments. Should a "significant impact" be identified in the environmental assessment process, then that is identified in the "finding" and a "notice of intent" to complete an Environmental Impact Statement (EIS) is issued. Public hearings are a requirement in completing an EIS. At this time, the environmental assessment for establishment of the drop zone at EMRTC identifies that the proposed action will not result in a "significant impact" and a Finding of No Significant Impact (FONSI) will be issued.
"At this point, I'm against the proposed new operations because I lack information on the current proposal and also don't have enough analysis on future activities that are hinted at, like the expansion of the zone that might cumulatively have other, possibly adverse impacts."	Impacts anticipated from probable future actions were identified in the Section 5.1.3 Analysis of Cumulative Impacts. When these potential actions are formally considered, additional environmental assessments will be completed that will identify in more detail, the environmental consequences specific to those actions.

Comments were received from the following individuals. All those commenting on the Draft EA will receive a printed copy of the Final EA.

Peggy Newman
[redacted]

Audrie Clifford
[redacted]

Bob Merkel
[redacted]

Jerome Milord
[redacted]

Joan K. Brown
[redacted]

Don & Margaret Wiltshire
[redacted]

Francher Gotesky
[redacted]

Mark Samuels
[redacted]

Robert Epstein
[redacted]

Loretta Lowman
[redacted]

Paul Krza
[redacted]

Richard L. Epstein
[redacted]

August 22, 2006

Mr. Gary Armstrong
Organizational Strategies, Inc.
1436 S. Legend Hills Dr.
Suite 140
Clearfield, UT 84015

Dear Mr. Armstrong,

Please find enclosed a comment on the draft environmental assessment for establishing a drop zone at the Energetic Materials and Testing Center in Socorro, New Mexico. As per the first page of the DEA, this is being submitted and postmarked by August 24.

The comment is being submitted in duplicate copies because it has been signed by several persons who did not all have access to the same copy.

If you have any questions about this, please contact me at the address above. You can also reach me at my e-mail address:

a1r2l3e4a5r6f@sdc.org

Please use the subject heading "Drop Zone DEA".

Can you please let me know that you have received this package? We would also like to know when you will have the public meetings on the DEA.

Yours truly,

R. Epstein

Dr. Richard L. Epstein

RLE@adviceforum.org

Comment on Draft Environmental Assessment
"Establishing a Drop Zone at the Energetic Materials Research and Testing Center in Socorro, New Mexico" July/August 2007

We, the undersigned, wish to state our objection to the creation of a drop zone for Kirtland Air Force Base at the EMRTC site designated in the Draft Environmental Assessment (DEA),as explained below.

1. The map in the DEA showing the proposed drop zone is highly deceptive. It does not show the relation of the proposed drop zone to the City of Socorro. It does not clearly mark Highway 60, which passes very near to the proposed drop zone. As close as we can tell, the proposed drop zone will be within one mile of Highway 60, and within 4 miles of New Mexico Tech's main campus and the City of Socorro.

2. The DEA is unclear about now many flights will be made to the proposed drop zone. On p. 4 it says, "Training missions could be conducted up to three times a day, up to five days a week. A standard cargo airdrop practice operation would include an average of 15 passes across a DZ."

What is not clear is how many planes there will be per mission. Nor is a maximum number of passes stipulated. Given the stated average, it is reasonable to expect that there could be 225 passes across the proposed drop zone per week. But nothing in the report precludes there being as many as 2,000 passes per week over the drop zone.

3. Each pass over the proposed drop zone could require a plane to pass over Highway 60. That will depend on where in the proposed drop zone the drop is meant to be made and the prevailing weather conditions. There are no elevation restrictions on the flight path of the planes except over Sevilleta Wildlife Refuge (p. 11 of the DEA). Drops may be made from as low as 150 feet above ground level (AGL). A person driving along Highway 60 who suddenly sees a C-130 transport plane bearing down at nearly 200 miles per hour only 150 feet above them could easily panic, creating an accident. Given the terrain of Highway 60, an accident in that area has a signficant potential of being fatal. Even if a plane were to pass 300 or 400 feet above a car or truck, the danger of creating panic is substantial. Placing elevation restrictions on the flight path of the planes to keep them substantially higher over Highway 60 would not be possible if they are to make their drops at 150 feet, or even at 300 feet.

4. The DEA says that the proposed drop zone will be used for dropping large bundles/kits, weighing up to 3,200 pounds and to make "personnel drops" (p. 4). These will be training missions, and it is not to be expected that the pilots are already perfectly expert in making drops. Given unfavorable weather conditions and/or an inexperienced pilot, or even just a momentary lapse of attention of a pilot, a bundle that is dropped with a parachute could go astray and land on Highway 60, again creating a very dangerous situation for drivers if not actually hitting a vehicle. Parachutists could be blown across Highway 60 or even as far as the City of Socorro, again creating very dangerous conditions.

5. Depending on where in the proposed drop zone the drop is meant to be made and the prevailing weather conditions, flights to the proposed drop zone and possibly passes over the drop zone will pass over the campus of New Mexico Tech and the City of Socorro. Since there are no elevation restrictions proposed, the same potential for creating vehicle accidents as described above exists within the campus and the City of Socorro. There will also be noise created by the planes passing over the City of Socorro. Since there is no elevation restriction, nor likely to be one possible if the drops are to be made at a height useful for the training of the pilots, the noise over the City of Socorro will be very substantial. The DEA gives in Table 4-3 the likely noise that the operations would create. It does not agree with table 4-2, which gives the noise level of a C-130 at various altitudes above ground level. Table 4-3 says tha68alf the time the altitude of the planes will be at

250–500 feet AGL, and half the time it will be 500–1,000 feet AGL. According to the Table 4-2, at 250–500 feet AGL the noise created will be between 101.2 decibels and 96.5 decibels. At 500–1,000 feet AFL, the noise created will be between 96.5 decibels and 91.4 decibels. Hence, Table 4-3 cannot be right in predicting an average sound level for each pass of 78.6 decibels.

Moreover, Table 4-3 gives the number of proposed operations as 3,150 daytime operations and 900 nighttime operations. We hope, but nowhere is it stipulated, that this is per year and not per month or week. Again, it does not say whether an operation is one plane or many. This number is very much higher than the number of "operations" given on p. 4 (3 operation/day at 5 days/week = 750 operations, not 3,150 + 900 = 4,150 operations). Nor is there reason to think that this number could not be increased. But even with just one plane per operation and only one-quarter of those passing over the City of Socorro, there will be 787 flights per year during the day creating noise, and 225 flights per year at night creating noise.

The DEA says on p. 19, "Noise impacts to the Socorro community would consist only of over flight that could occur as aircraft fly to and from the DZ. However, these portions of the flights would be at higher altitude. If a flyover of the community does occur, noise impacts would be brief and limited only to the actual duration of the flyover." There is no elevation restriction imposed on aircraft flying over the City of Socorro, and from the experience of residents with current military flights in this area, even if there were a restriction it would be regularly violated. Moreover, low-flying planes going over the Socorro community at even 1,000 feet as often as noted above, day and night, would create a new and quite substantial disturbance to the residents. Table 3-1 shows that the noise would be at a level between a lawn mower and a tractor/bulldozer, which is more than sufficient to wake people at night, and to disrupt their conversations or other listening activities during the day.

6. There is no way to ensure safety and freedom from excessive noise for people in the Socorro area that is compatible with low-level air drops on the proposed drop zone.

7. The DEA says in many places that there is no alternative to the use of unsatisfactory drop zones elsewhere if the proposed drop zone is not instituted. Nowhere in the DEA is the use of White Sands Missile Range for a drop zone investigated. A drop zone there would not entail any of the problems to people described above, and would be only slightly further from Kirtland Air Force Base. Nor is any reason given for why more remote areas in this vicinity would be unsuitable. It appears that no alternatives were examined.

NAME Peggy J. Newman ADDRESS [redacted]

Comment on Draft Environmental Assessment
"Establishing a Drop Zone at the Energetic Materials Research and Testing Center in Socorro, New Mexico" July/August 2007

We, the undersigned, wish to state our objection to the creation of a drop zone for Kirtland Air Force Base at the EMRTC site designated in the Draft Environmental Assessment (DEA),as explained below.

1. The map in the DEA showing the proposed drop zone is highly deceptive. It does not show the relation of the proposed drop zone to the City of Socorro. It does not clearly mark Highway 60, which passes very near to the proposed drop zone. As close as we can tell, the proposed drop zone will be within one mile of Highway 60, and within 4 miles of New Mexico Tech's main campus and the City of Socorro.

2. The DEA is unclear about how many flights will be made to the proposed drop zone. On p. 4 it says, "Training missions could be conducted up to three times a day, up to five days a week. A standard cargo airdrop practice operation would include an average of 15 passes across a DZ."

What is not clear is how many planes there will be per mission. Nor is a maximum number of passes stipulated. Given the stated average, it is reasonable to expect that there could be 225 passes across the proposed drop zone per week. But nothing in the report precludes there being as many as 2,000 passes per week over the drop zone.

3. Each pass over the proposed drop zone could require a plane to pass over Highway 60. That will depend on where in the proposed drop zone the drop is meant to be made and the prevailing weather conditions. There are no elevation restrictions on the flight path of the planes except over Sevilleta Wildlife Refuge (p. 11 of the DEA). Drops may be made from as low as 150 feet above ground level (AGL). A person driving along Highway 60 who suddenly sees a C-130 transport plane bearing down at nearly 200 miles per hour only 150 feet above them could easily panic, creating an accident. Given the terrain of Highway 60, an accident in that area has a signficant potential of being fatal. Even if a plane were to pass 300 or 400 feet above a car or truck, the danger of creating panic is substantial. Placing elevation restrictions on the flight path of the planes to keep them substantially higher over Highway 60 would not be possible if they are to make their drops at 150 feet, or even at 300 feet.

4. The DEA says that the proposed drop zone will be used for dropping large bundles/kits, weighing up to 3,200 pounds and to make "personnel drops" (p. 4). These will be training missions, and it is not to be expected that the pilots are already perfectly expert in making drops. Given unfavorable weather conditions and/or an inexperienced pilot, or even just a momentary lapse of attention of a pilot, a bundle that is dropped with a parachute could go astray and land on Highway 60, again creating a very dangerous situation for drivers if not actually hitting a vehicle. Parachutists could be blown across Highway 60 or even as far as the City of Socorro, again creating very dangerous conditions.

5. Depending on where in the proposed drop zone the drop is meant to be made and the prevailing weather conditions, flights to the proposed drop zone and possibly passes over the drop zone will pass over the campus of New Mexico Tech and the City of Socorro. Since there are no elevation restrictions proposed, the same potential for creating vehicle accidents as described above exists within the campus and the City of Socorro. There will also be noise created by the planes passing over the City of Socorro. Since there is no elevation restriction, nor likely to be one possible if the drops are to be made at a height useful for the training of the pilots, the noise over the City of Socorro will be very substantial. The DEA gives in Table 4-3 the likely noise that the operations would create. It does not agree with table 4-2, which gives the noise level of a C-130 at various altitudes above ground level. Table 4-3 says that half the time the altitude of the planes will be at

250–500 feet AGL, and half the time it will be 500–1,000 feet AGL. According to the Table 4-2, at 250–500 feet AGL the noise created will be between 101.2 decibels and 96.5 decibels. At 500–1,000 feet AFL, the noise created will be between 96.5 decibels and 91.4 decibels. Hence, Table 4-3 cannot be right in predicting an average sound level for each pass of 78.6 decibels.

Moreover, Table 4-3 gives the number of proposed operations as 3,150 daytime operations and 900 nighttime operations. We hope, but nowhere is it stipulated, that this is per year and not per month or week. Again, it does not say whether an operation is one plane or many. This number is very much higher than the number of "operations" given on p. 4 (3 operation/day at 5 days/week = 750 operations, not 3,150 + 900 = 4,150 operations). Nor is there reason to think that this number could not be increased. But even with just one plane per operation and only one-quarter of those passing over the City of Socorro, there will be 787 flights per year during the day creating noise, and 225 flights per year at night creating noise.

The DEA says on p. 19, "Noise impacts to the Socorro community would consist only of over flight that could occur as aircraft fly to and from the DZ. However, these portions of the flights would be at higher altitude. If a flyover of the community does occur, noise impacts would be brief and limited only to the actual duration of the flyover." There is no elevation restriction imposed on aircraft flying over the City of Socorro, and from the experience of residents with current military flights in this area, even if there were a restriction it would be regularly violated. Moreover, low-flying planes going over the Socorro community at even 1,000 feet as often as noted above, day and night, would create a new and quite substantial disturbance to the residents. Table 3-1 shows that the noise would be at a level between a lawn mower and a tractor/bulldozer, which is more than sufficient to wake people at night, and to disrupt their conversations or other listening activities during the day.

6. There is no way to ensure safety and freedom from excessive noise for people in the Socorro area that is compatible with low-level air drops on the proposed drop zone.

7. The DEA says in many places that there is no alternative to the use of unsatisfactory drop zones elsewhere if the proposed drop zone is not instituted. Nowhere in the DEA is the use of White Sands Missile Range for a drop zone investigated. A drop zone there would not entail any of the problems to people described above, and would be only slightly further from Kirtland Air Force Base. Nor is any reason given for why more remote areas in this vicinity would be unsuitable. It appears that no alternatives were examined.

NAME Mark Samuels ADDRESS [redacted]

Comment on Draft Environmental Assessment

"Establishing a Drop Zone at the Energetic Materials Research and Testing Center in Socorro, New Mexico" July/August 2007

We, the undersigned, wish to state our objection to the creation of a drop zone for Kirtland Air Force Base at the EMRTC site designated in the Draft Environmental Assessment (DEA),as explained below.

1. The map in the DEA showing the proposed drop zone is highly deceptive. It does not show the relation of the proposed drop zone to the City of Socorro. It does not clearly mark Highway 60, which passes very near to the proposed drop zone. As close as we can tell, the proposed drop zone will be within one mile of Highway 60, and within 4 miles of New Mexico Tech's main campus and the City of Socorro.

2. The DEA is unclear about how many flights will be made to the proposed drop zone. On p. 4 it says, "Training missions could be conducted up to three times a day, up to five days a week. A standard cargo airdrop practice operation would include an average of 15 passes across a DZ."

What is not clear is how many planes there will be per mission. Nor is a maximum number of passes stipulated. Given the stated average, it is reasonable to expect that there could be 225 passes across the proposed drop zone per week. But nothing in the report precludes there being as many as 2,000 passes per week over the drop zone.

3. Each pass over the proposed drop zone could require a plane to pass over Highway 60. That will depend on where in the proposed drop zone the drop is meant to be made and the prevailing weather conditions. There are no elevation restrictions on the flight path of the planes except over Sevilleta Wildlife Refuge (p. 11 of the DEA). Drops may be made from as low as 150 feet above ground level (AGL). A person driving along Highway 60 who suddenly sees a C-130 transport plane bearing down at nearly 200 miles per hour only 150 feet above them could easily panic, creating an accident. Given the terrain of Highway 60, an accident in that area has a signficant potential of being fatal. Even if a plane were to pass 300 or 400 feet above a car or truck, the danger of creating panic is substantial. Placing elevation restrictions on the flight path of the planes to keep them substantially higher over Highway 60 would not be possible if they are to make their drops at 150 feet, or even at 300 feet.

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NAME ADDRESS

[redacted]

August 24, 2007

Comment on the draft environmental assessment by New Mexico Tech's Energetic Materials Research and Testing Center for a proposed new drop zone.

We're told that that big cargo planes will drop 45-pound and larger bundles along with "personnel drops."

How often? Well, after plowing through the EA, I got conflicting info. Either they're going do it three times a day up to five times a week all year, or only three times a week for most of the year.

Depending upon which EA figure is correct, that means Socorro folks will see more than 2,000 or as many as almost 11,000 flights of the giant C-130s in the area each year.

Not enough analysis is done on "noise impacts." Charts in the document note that low-flying C-130s hit the noise meter somewhere between a lawnmower and a table saw, and just maybe 15 to 20 decibels beneath the pain threshold

And how about the chances of stuff, perhaps high-tonnage, falling into my backyard, or on somebody in Socorro?

Not enough analysis is done to support the conclusion that there are no considerations with regards to "environmental justice." The EA only includes a chart that shows that over half of the Socorro County population is minority (tribal & Latino) and with some 20 percent living in poverty but does not say why they would not be impacted because none of them live exactly in the zone. But aren't their indirect impacts from the operations outside the zone?

Why does the Air Force need to move to Socorro? They already have drop zones near Roswell's airport, which used to be an Air Force base. The conclusion that driving down to retrieve the bundles costs too much is not supported by any facts or figures detailing the costs.

There's a lot of unanswered questions, and skim-over, conflicting answers, and that's why I support extending the comment period. Also, the EA wasn't immediately available on line, depriving some people the opportunity to review the document. A public meeting on the proposal might also be helpful in answering questions.

At this point, I'm against the proposed new operations because I lack information on the current proposal and also don't have enough analysis on future activities that are hinted at, like the expansion of the zone that might cumulatively have other, possibly adverse impacts.

Paul Krza

[redacted]

September 10, 2007

On Saturday, Sept. 8, I had my comment letter for the drop zone EA returned (see enclosed), because, as you notice, I inadvertently left off the suite number for your address. I'm resending it, in hopes that because it is postmarked by the due date (note envelope), that you will consider my comments. One would have hoped that with most of the address included, the letter might have gotten to you anyway.
By the way, I think it might assist the public in the future if you were to provide an electronic/email address to forward comments. Also, since this action specifically affects Socorro County, you might have considered using a local address or agency to field the comments.

Thank you,

Paul Krza
[redacted]

Appendix C: Notice of Availability

AFFIDAVIT OF PUBLICATION

STATE OF NEW MEXICO)
) SS.
COUNTY OF SOCORRO)

Melissa Montoya, being first duly sworn, deposes and says that she is Business Manager of "El Defensor Chieftain"; that said "El Defensor Chieftain" is a semi-weekly newspaper of general paid circulation in the County of Socorro, State of New Mexico, which is entered under the second class postal privilege and is published in Socorro, Socorro County, New Mexico; that said "El Defensor Chieftain" is a newspaper duly qualified in all respects for the purpose of publishing legal notices and advertisements in Socorro County, New Mexico; that the publication, a copy of which is hereto attached was published in the regular and entire issue of every number of said newspaper during the period of publications, and that said notice was and published in the newspaper proper and to a supplement thereof of 2 time(s); the first publication began on the July 21, 2007 and the last publication on the Aug. 1, 2007.

Melissa Montoya
Affiant

Subscribed and sworn to before me this 2nd day of August 2007.

OFFICIAL SEAL
Angela Esquibel
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires: 6/29/08

Angela Esquibel
Notary Public

SOCORRO COUNTY

LEGAL NOTICE

Public Notice of Availability

The New Mexico Institute of Mining and Technology (NMT) Energetic Materials Research and Testing Center (EMRTC) in cooperation with the United States Air Force 58th Special Operations Wing (58th SOW) have prepared a Draft Environmental Assessment (DEA) to address the potential effects of establishing a Drop Zone (DZ) at EMRTC's field laboratory. The proposed DZ is wholly contained within EMRTC property, west of the City of Socorro, NM. The proposed DZ consists of all of Section 33, Township 2 South, and Range 2 West, totaling 640 acres, or one square mile.

The purpose of the DZ is to provide a DZ training area primarily for the 58th SOW who currently lack adequate access to suitable locations to complete mission essential DZ operations training. The DZ would also enable EMRTC to expand their training mission relative to the war on terror for users such as the United States departments of Defense, Justice, and Homeland Security, in addition to state and local government first responder groups.

The DEA and instructions for submitting comments are available for review at the following libraries: Albuquerque/Bernalillo County Library, 501 Copper AVE. NW, Albuquerque NM; East Mountain Branch, HWY 333, Tijeras NM; Magdalena Public Library 108 N. Main Street, Magdalena NM; Rio Rancho Public Library, 950 Pinetree Rd SE, Rio Rancho NM; Santa Fe Public Library, 145 Washington St, Santa Fe NM; Socorro Public Library, 401 Park St, Socorro NM; and Vista Grande Public Library 7 Avenida Vista Grande B7-#192, Santa Fe NM. The DEA can be obtained from Organizational Strategies, Inc., 1436 S Legend Hills Dr, Ste 140, Clearfield, UT 84015, telephone (801) 773-6459, facsimile (801) 525-1175. The DEA can be viewed via the internet at the following address: http://www.emrtc.nmt.edu.

The DEA will be available for a 30-day review beginning July 27 and ending August 24, 2007. Comments must be postmarked or faxed by August 24, 2007 to ensure that they receive full consideration. Please address all comments to the attention of Mr. Gary Armstrong of Organizational Strategies, Inc. at the above address or facsimile number.

EDC/NMT/Notice
July 21, Aug. 1, 2007

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Journal: July 20-23, 2007

STATE OF NEW MEXICO
County of Bernalillo SS

Bill Tafoya, being duly sworn, declares and says that he is Classified Advertising Manager of **The Albuquerque Journal**, and that this newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Session Laws of 1937, and that payment therefore has been made of assessed as court cost; that the notice, copy of which is hereto attached, was published in said paper in the regular daily edition, for 4 times, the first publication being on the 20 day of July, 2007 and the subsequent consecutive publications on July 21-23, 2007

Sworn and subscribed to before me, a Notary Public, in and for the County of Bernalillo and State of New Mexico this 23 day of July of 2007.

PRICE $150.69

Statement to come at end of month.

ACCOUNT NUMBER C81987

CLA-22-A (R-1/93)

OFFICIAL SEAL
Elyn Sloane
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires: 4-4-10