



## Minuteman II Missile Sites Fact Sheet

### Contact Information

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### Introduction

The U.S. Air Force's 165 Minuteman II missile sites in Missouri were decommissioned in the 1990's as the result of the international Strategic Arms Reduction Treaty. During the closure process, the U.S. Air Force discovered that waterproofing materials used in the construction of the missile silos and on underground storage tanks (USTs) contained polychlorinated biphenyls, also known as PCBs. Land use is restricted at these sites to prevent disturbance of buried and capped contaminants. Land use controls were put in place by the deeds transferring each property from the federal government to private owners. The Missouri Department of Natural Resources (the department) works with the U.S. Air Force and the U.S. Environmental Protection Agency (EPA) to ensure the continuing safety of these closed missile sites through inspections and owner education.

### Hazardous Substances Left Behind

**Polychlorinated Biphenyls or PCBs:** The asphaltic coating used as a sealant on underground storage tanks and silo structures contained polychlorinated biphenyls, or PCBs, and asbestos.

**Petroleum Hydrocarbons:** Spills and leaks from underground storage tanks (USTs) resulted in diesel fuel in soil and shallow groundwater.

### Environmental Investigation

Closure included demolition and capping of silo structures, as well as closure of USTs which included removal of soil contaminated with diesel fuel. Some diesel fuel may remain at concentrations that are not a health risk and are decreasing through a process called natural attenuation, in which microorganisms in the soil break down the chemicals into nontoxic substances. A five-year groundwater investigation confirmed that the PCBs remain trapped within asphaltic material buried during closure and are not migrating into groundwater. PCBs are toxic compounds that persist in the environment rather than degrading over time, so preventing contact with buried silo debris is important.

### Time Line of Historical Events

1961 - Department of Defense implements plan to place 150 Intercontinental ballistic missiles in Missouri

1962 - Construction of silos begins

1972 - All Minuteman II missiles are in place and on full-alert status

1991 - President George H. Bush signs the Strategic Arms Reduction Treaty, which directed disarmament.

1991 to 1993 - Minuteman II missiles disarmed

1993 to 1995 - Silos imploded

1994 to 1997 - Discovery of hazardous substances leads to a Federal Facilities Compliance Agreement between the U.S. Air Force, the EPA and the department

1997- 2002 - Environmental investigation and site closure

### Launch Control Facilities

There were 15 Launch Control Facilities located throughout the western portion of Missouri. They ranged in size from 2.51 to 11.6 acres. Each Launch Control Facility had a security fence 25 feet inside the property boundary. Support components included a support building, heated garage containing a 2500-gallon diesel UST, emergency generator, elevator and access shaft, a lagoon septic system and a well.

Buildings contained lead-based paint and asbestos containing materials (ACM), including siding, roofing, pipe insulation, floor tiles and tile adhesive. Lead-based paint abatement is required prior to use of the support building as a residence. Any remodeling must be conducted in conjunction with asbestos abatement for all ACM.

## Minuteman II Missile Sites Fact Sheet (continued)

### Launch Facilities

There were 150 missile Launch Facilities in Missouri that ranged in size from 1.52 to 1.77 acres. Each Launch Facility housed a solid fueled Intercontinental Ballistic Missile. Each Launch Facility consisted of a support building, a 14,500-gallon diesel UST and a security fence located 25 feet inside the property boundary.

### Dismantlement

The missile sites were dismantled in the 1990's. At Launch Facilities, the silos were demolished using explosives and upper portions were excavated. Next, remaining portions of the launch tubes were filled with rubble and covered with concrete caps below the ground surface. Finally, surface areas were re-graded to drain water away from the cap location, and were covered with gravel. At Launch Control Facilities, below grade structures were sealed, access shafts filled in and concrete caps were installed.

### Land Use Restrictions

*Property owners must adhere to restrictions on their property to avoid disturbing hazardous substances.*

The following activity is prohibited:

- Installation of water wells

The following activities are prohibited without prior approval:

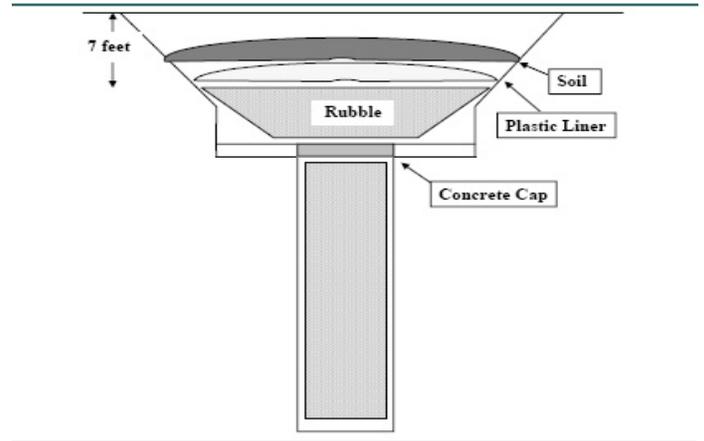
- Ground disturbance below two feet
- Disturbance of drainage characteristics of the site

### Restriction Waivers Are Available

Property owners must request a waiver of the restrictions if alterations or improvements are planned that will disturb the ground surface. Waivers may be requested from either the department or EPA.

The department has developed a form for property owners to request waivers, available upon request or on the Internet at <http://dnr.mo.gov/env/hwp/fedfac/MinutemanII.htm>. If property owners would like help preparing a waiver request, please contact the department's Federal Facility Section. Department staff can meet with you at your property to provide information and technical assistance and to discuss your proposed property improvements.

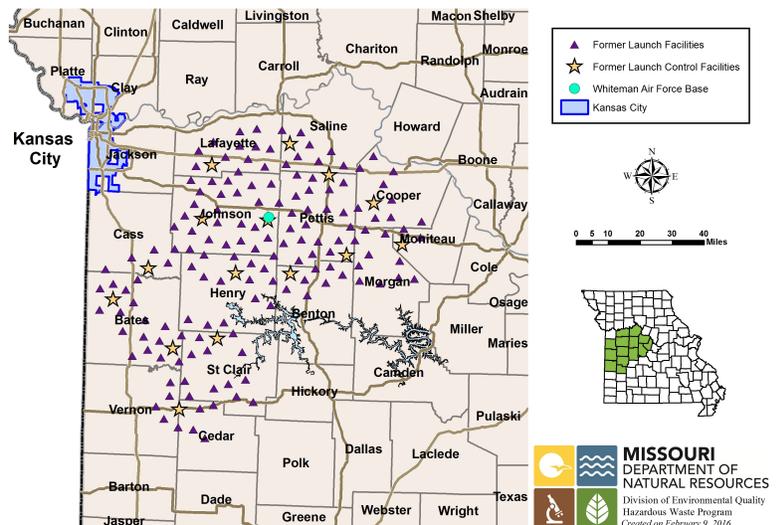
### Diagram of a Dismantled Launch Facility



### Property Transfer Requirements

If Minuteman II property owners sell or otherwise transfer property to new owners, they must insert the proper restrictions and covenants into the "instrument of conveyance," usually a warranty deed. This requirement is set forth in the deed used to transfer the property from the U.S. government into private property. A document that may be attached to a deed to satisfy this requirement is available from the department.

### Location of Former Minuteman II Missile Sites



### For More Information

The department is committed to helping owners of former Minuteman II missile sites by providing information and assistance. For more information, to receive help with restriction waiver requests or to ask for assistance with property transfer requirements, please visit the department's website at [www.dnr.mo.gov](http://www.dnr.mo.gov) or contact the department's Federal Facilities Section at (573) 751-3907.