Fact Sheet

Environmental Programs

Material Disposal Areas and the Threat of Wildfire

Established in 1943, Los Alamos National Laboratory now consists of 1,280 buildings in 47 technical areas spread out over 37 square miles. The complex includes 11 nuclear facilities and more than 10,000 workers.

Los Alamos and Wildfires

In the past, large wildfires in the area, including the La Mesa Fire (1977), the Dome Fire (1996), the Oso Fire (1998), the Cerro Grande Fire (2000) and the Las Conchas Fire (2011) demonstrate that forests on and surrounding the Laboratory are susceptible to destructive crown fires.

The replacement value of facilities and infrastructure at the Laboratory is estimated at $6.5 billion. In addition to the threat to lives and property, a wildfire could cause the release of radiological or other hazardous materials.

Wildland Fire Management

The Laboratory's wildland fire management goals address these threats. Emergency Operations maintains an annual and a five-year wildland fire management plan that responds directly to Los Alamos National Security, LLC and Department of Energy National Nuclear Security Administration policies.

The concepts of adaptive management and integrated work management are incorporated into the wildland fire management process.

Responsible Organizations

Integration between DOE/NNSA, the Laboratory and external agencies with responsibilities for wildland fire management occurs through the Interagency Wildfire Management Team that has been operating since 1996.

The Associate Directorate for Infrastructure and Site Services is responsible for wildland fire management at the Laboratory.

The Los Alamos County Fire Department provides wildfire suppression support.

The New Mexico Joint Powers Agreement, between the state Forestry Division, DOE, the Department of Interior and Department of Agriculture provides a mechanism for sharing resources for an extended wildfire attack.

Guiding Principles

The guiding principles, based on Department of Energy policy, are incorporated into the Laboratory's wildfire management plan:

1. Firefighter and public safety is the first priority in every fire management activity.

2. The role of wildland fire as an essential ecological process and natural change agent will be incorporated into the planning process.
3. Fire management plans, programs and activities support land and resource management plans and their implementation.
4. Sound risk management is a foundation for all fire management activities.
5. Fire management programs and activities are economically viable, based upon values to be protected, costs, and land and resource management objectives.
6. Fire management plans and activities are based upon the best available science.
7. Fire management plans and activities incorporate public health and environmental quality considerations.
8. Federal, state, tribal, local, interagency and international coordination and cooperation are essential.
9. Standardization of policies and procedures among federal agencies is an ongoing objective.
10. The Los Alamos National Security, LLC (LANS) contract requires adoption of National Fire Protection Association (NFPA) National Fire Codes (most recent editions) with the exception of NFPA 70, National Electrical Code and NFPA 5000, Building Construction and Safety Code.

NFPA 1143, Standard for Wildland Fire Management and NFPA 1144, Standard for Protection of Life and Property from Wildfire are particularly relevant. NFPA 1143 provides guidance for an institutional wildland fire protection program, including risk/hazard assessment and mitigation, preparedness, and incident management. NFPA 1144 provides specific guidance for protecting lives and property from wildland fire.

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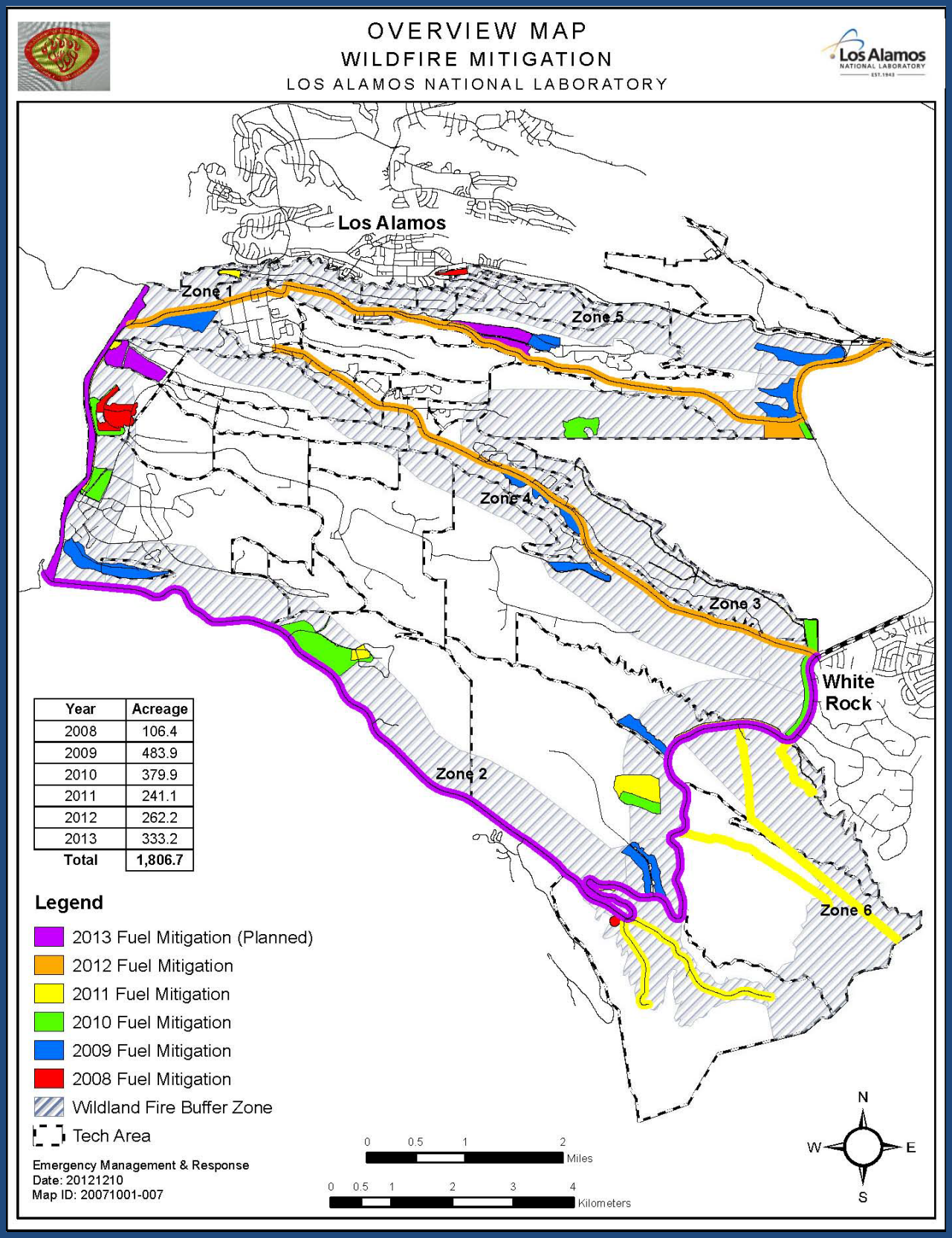

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The Las Conchas fire in 2011 burned 156,000 acres and focused attention on waste stored above ground at Area G.

The waste stored above ground at Area G is in metal containers or under a fire suppression system on asphalt or concrete pads.

The Laboratory works with other agencies to mitigate the risk of fire.

In 2011, the fast-moving Las Conchas fire burned more than 156,000 acres of forest in northern New Mexico and came to within 3-1/2 miles of Technical Area 54 (TA-54), Area G, the Laboratory's waste disposal facility. The fire highlighted the risk posed by transuranic (TRU) waste stored at the Laboratory and resulted in an accelerated shipping campaign to remove waste stored above ground at Area G.

Preceded by the Cerro Grande fire in 2000, Las Conchas was the second major wildfire near Los Alamos in 11 years.

Material Disposal Areas

Established in 1943, Los Alamos National Laboratory has engaged in nuclear science and weapons research for decades. In the past, the Laboratory complied with waste disposal standards of the time with methods based on known hazards.

Much of the waste was buried in trenches or pits called material disposal areas (MDAs). The Laboratory originally had 26 material disposal areas, but most have been characterized and many have been remediated, which usually involves digging up the buried waste and shipping it to approved waste disposal facilities. Currently, the Laboratory has several material disposal areas that have not yet been remediated. The corrective action path forward for these material disposal areas rests with the New Mexico Environment Department, as the Laboratory has submitted its corrective measure evaluation report.

Fire Risk and Measures at Material Disposal Areas

Waste stored in Laboratory material disposal areas is buried one to three meters underground and covered with grass, base course or concrete, so there is minimal risk of the waste catching fire.

There are five material disposal areas at the Laboratory categorized as nuclear environmental sites because the waste contains certain levels of radioactive inventory. The Laboratory assesses the risk of fire at these sites on a semi-annual basis.

Fire Mitigation Measures at Area G

Though Area G is not a material disposal area, national attention was focused on Area G, the Laboratory's waste disposal site, after the Las Conchas fire in 2011. Because waste is stored above ground at Area G, fire may pose more of a risk at Area G than at other Laboratory material disposal areas.

To reduce the risk of wildfire at Area G, the Laboratory removes ground fuels around the perimeter and monitors

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and removes any regrowth during the growing season. This monitoring includes daily inspections around the domes at Area G and quarterly evaluation of growth around the fence line. The Laboratory also has created improved firebreaks along Pajarito Road by removing roadside vegetation.

In addition, the waste stored above ground at Area G is stored in metal containers or under a fire suppression system on asphalt or concrete pads.

Wildland Fire Management

To help minimize the threat to life and property of another major wildfire, the Laboratory and a number of federal and regional partners, including Los Alamos County, have a comprehensive wildland fire management plan.

The wildland fire management plan contains a set of core activities, including planning and preparedness; fire suppression; fuels mitigation (i.e., thinning, mowing, etc.); rehabilitation and monitoring.

An Interagency Wildfire Management Team formed in 1996 integrates the Department of Energy, the Laboratory and external agencies for efficient and effective fire prevention and coordination.

Mitigation Measures

After the Cerro Grande fire in 2000, the Laboratory took a number of proactive steps to minimize the threat of wildfires. These steps included:

- Thinning trees and removing ground fuels;
- Installing fire breaks and roads;
- Building an Emergency Operations Center, an interagency fire center and a helicopter fire base;
- Purchasing additional fire trucks, service vehicles and heavy equipment; and
- Enacting interagency agreements and training with the U.S. Forest Service, National Park Service, Los Alamos County and the State of New Mexico.

The genesis of this fact sheet began at the March 2013 meeting of the Northern New Mexico Citizens Advisory Board (NNMCAB) where the Board unanimously passed a recommendation (No. 2013-02) that Los Alamos National Laboratory review material disposal areas in addition to Technical Area 54, Area G, for risks associated with fires. From that recommendation, LANL has developed this fact sheet to serve as a public outreach tool to assist in informing our stakeholders on some of the potential risks and mitigations to address those risks that LANL has taken regarding the threat of wildfires in and around the Laboratory's facilities including the Material Disposal Areas.

Waste is buried 1-3 meters below ground in the Laboratory's material disposal areas.

To reduce the risk of wildfire at Area G, the Laboratory removes ground fuels around the perimeter and monitors growth daily around the domes during the growing season.

For more information, contact:

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