

Appendix G

Wildland Fire Management Plan for the Rocky Flats, Colorado, Site

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**Wildland Fire Management Plan
for the Rocky Flats, Colorado, Site**

July 2013

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Abbreviations

COU	Central Operable Unit
DOE	U.S. Department of Energy
JSA	Job Safety Analysis
LM	Office of Legacy Management
LMS	Legacy Management Support
NFPA	National Fire Protection Association
PBA	Programmatic Biological Assessment
POU	Peripheral Operable Unit
RFNWR	Rocky Flats National Wildlife Refuge
USFWS	U.S. Fish and Wildlife Service

1.0 Introduction and Purpose

1.1 Plan Purpose

This Wildland Fire Management Plan describes the current fire environment at the Central Operable Unit (COU) and the fire prevention and mitigation approach to meet the fire protection objectives of U.S. Department of Energy (DOE) Order 420.1B, *Facility Safety*. The local fire district authority provides for firefighting and related activities at the site.

In addition, DOE Order 420.1B, *Facility Safety*, requires compliance with the Codes and Standards of the National Fire Protection Association (NFPA), including NFPA Standard 1143, *Wildland Fire Management* (NFPA 2009) and NFPA Standard 1144, *Protection of Life and Property from Wildfire* (NFPA 2009). This document was developed using the guidance provided in the *Implementation Guide: Wildland Fire Management Program for Use with DOE 450.1, Environmental Protection Program* (DOE 2004).

2.0 Wildland Fire Management Strategies

2.1 Management Considerations

The site has had a limited occurrence of wildland fire. Access to the site has been limited to authorized personnel who have operated within strict controls regarding the operation of equipment and the use of fire. These controls have prevented and limited the fire risks. Additionally, during past site operations and throughout most site cleanup and closure activities, an onsite fire department was present to help prevent, control, and put out fires.

Historical documentation indicates that grasslands near Rocky Flats have been subjected to lightning- and human-caused fires for thousands of years (DOE 1999). These fires likely played a major role in promoting native vegetation growth and diversity. Since 1972, wildfires have not been allowed to burn, and only one controlled burn has been conducted in the grasslands at Rocky Flats. As a result, a fuel load of dead vegetation has been building in the grasslands at the site for at least 30 years. Most of this, however, is now located on Rocky Flats National Wildlife Refuge (RFNWR) land in the Peripheral Operable Unit (POU) area, although some smaller areas are contained in the COU. Ten wildfires have been documented on the site since 1993. In addition, a prescribed burn was conducted on April 6, 2000. Table 1 summarizes these grassland fires.

Since the closure of the site, many of the activities that once posed potential for wildfires have been reduced. However, the reduction in the number of personnel present on both DOE and RFNWR lands also increases the risk of trespassers who could start a fire.

The number of site personnel who have experience in wildland fire suppression and control is limited. Resources are insufficient to effectively and safely respond to fires. For this reason, the local fire district authority (which includes mutual aid fire authorities) provides fire protection for the site.

Activities that involve the installation or maintenance of site structures, equipment, and resources are the responsibility of site personnel or subcontract personnel. Any task or activity planned for the site will be evaluated to determine if it constitutes a fire hazard. When a risk is identified, it will be addressed in a Job Safety Analysis (JSA). The JSA will identify the hazards and actions to mitigate them.

Table 1. Wildfires and Prescribed Burns Documented at Rocky Flats Since 1993

Date	Wildfire or Prescribed Burn	Name	Location	Acres
1993	Wildfire	1993 Wildfire	South Buffer Zone, ^a southeast of C-1 Pond	0.14
3/20/94	Wildfire	1994 Wildfire	North Buffer Zone, south of Highway 128	70.17
9/2/96	Wildfire	September 2, 1996, Wildfire	South Buffer Zone, contained by Buffer Zone roads	104.07
7/10/00	Wildfire	July 10, 2000, Wildfire	South Buffer Zone, south of East Gate	8.43
9/10/00	Wildfire	September 10, 2000, Wildfire	North Buffer Zone, south of Highway 128	0.52
4/6/00	Prescribed Burn	April 6, 2000, Prescribed Burn	South Buffer Zone, contained by Buffer Zone roads	48.00
6/26/01	Wildfire	June 26, 2001, Wildfire	South Buffer Zone, along ridgetop road	0.0042
7/4/01	Wildfire	July 4, 2001, Wildfire	North Buffer Zone, southeast of National Renewable Energy Laboratory Wind Technology Center	0.99
2/24/02	Wildfire	February 24, 2002, Wildfire	North Buffer Zone, south of Highway 128	26.60
8/26/05	Wildfire	August 26, 2005, Original Landfill Wildfire	South Industrial Area, Original Landfill	4.01
4/2/06	Wildfire	April 2, 2006, Wildfire	Northeast Buffer Zone, south of Highway 128, west of Indiana Street	852.00
9/28/11	Wildfire	September 28, Wildfire	Northeast Buffer Zone, south of Highway 128, west of Indiana Street	20.27
Total				1,135.2

^a The former Buffer Zone is now the RFNWR/POU area.

2.2 Wildland Fire Management Goals

This plan will implement the following goals:

- Achieve a program where public and personnel safety is the highest priority in every fire management activity.
- Develop a program that facilitates the prevention of fires and the protection of resources and structures.
- Develop a program that minimizes fire loss and damage to structures, equipment, and wildland resources.
- Develop a program that minimizes the risk of wildland fire that could spread offsite.
- Develop a program where fire is appropriately used as a tool to meet resource management objectives.
- Develop a program that incorporates Integrated Safety Management System and Environmental Management System principles into the fire control planning process.
- Empower workers to identify and report potential hazards in wildland fire events.

3.0 Wildland Fire Management Program Components

3.1 Firefighting Standard

The number-one priority in any type of fire at the site is personnel and public safety. No action will be taken that places personnel or the public in danger.

An incipient fire is one in which the initial or beginning stage can be controlled or extinguished by a portable fire extinguisher without the need for protective clothing or breathing apparatus. It is the Legacy Management Support (LMS) contractor's policy that no employees will be authorized to fight incipient fires in general office space. Only trained, authorized employees can fight incipient fires in the field or at project sites. Training in the use of portable fire extinguishers will be provided annually for those authorized by the LMS project manager to fight incipient fires in the field. Employees not authorized to fight fires must evacuate any area in which a fire exists. All employees must follow the steps below.

3.1.1 Immediate Actions

- [1] Contact the fire department by dialing 911. Inform the fire department of any hazards that are known to be present in the fire area.
- [2] Stop or secure the operation causing the fire (e.g., secure hot work, shut off equipment) if this can be done safely.
- [3] Warn others in the area.
- [4] Evacuate personnel upwind and out of the affected area. (Meeting points will be determined by individual project.)
- [5] Isolate the fire area, and establish control boundaries, if possible.
- [6] Notify the immediate supervisor.
- [7] Notify the site Health and Safety lead.
- [8] Direct responding fire and emergency response service units to the location.

3.2 Fire Prevention and Control

Personnel awareness is the greatest tool for preventing fires. A personnel education campaign prior to and during seasons when the conditions are favorable for wildland fire would make site personnel, subcontractors, and visitors aware of what they can do to prevent a fire and what to do in the event of a fire onsite.

Signs indicating not only the prohibition of smoking but also the hazard of not extinguishing smoking materials in wildland environments would give personnel an appreciation of the associated dangers. The information would identify dry native grasses and leaves as flash fuels that can ignite quickly and burn a large area in a short time.

Signs informing of state fire seasons, burning bans, or fire danger would help personnel recognize that they need to be more careful, both on and offsite, with the use of possible ignition sources.

Information on fire hazards will be included in safety briefings and JSAs for tasks that have risk of causing fires. The tasks will be evaluated for ways to reduce or eliminate the hazard before work starts. Administrative controls in place at the site that reduce the potential for fire include:

- Requiring projects to have refueling plans and procedures that minimize fire potential.
- Controlling personnel activities, such as smoking or parking in areas of tall vegetation, that could cause a fire.
- Requiring hot work permits for construction or maintenance activities that require heat or an open flame.

3.3 Preparedness Actions

Site personnel will need to be aware of the fire danger. If smoke or fire is observed, they will need to be prepared to call 911 and report the location.

Fire extinguishers are provided at the site's East Shed and in fleet vehicles. These are for safe escape from fires at the facilities or for use on vehicle or equipment fires. Authorized personnel may use extinguishers if the fire is small and can be controlled using a portable fire extinguisher.

The local fire district authority will respond to fires (and other emergencies) at Rocky Flats. The Office of Legacy Management (LM) consults with the local fire district authority and sponsors orientation tours for the fire district staff so that they are familiar with the topography, gravel roads, access gates and fencing locations.

3.4 Current Fire Environment

3.4.1 Wildfire Seasons

The wildfire season along the Front Range, which includes Rocky Flats, typically runs from May 1 through the end of October, with June through August as the critical months. However, due to the dry local climate, wildfires can occur, and have occurred, in other months. See Table 1.

3.4.2 Fuels at the Site

Fire behavior depends on the type of fuels present. The fuel types found at the site are addressed below.

3.4.2.1 Buildings and Equipment

Only one building is present at the site, the Shed. The Shed is a nonflammable, all-metal building surrounded by an asphalt pad that extends 15 feet beyond the edge of the building, except for in the northwest corner where it extends approximately 7 feet. Beyond the asphalt pad, vegetation is sparse on the north and west sides and would not carry a fire. The east side of the Shed is

surrounded by a roadbase parking area and two large steel storage containers (known as “CONEX” containers) on the south side with little vegetation near them. The Shed contains gasoline and other flammable liquids. These materials are stored in a locked flammables cabinet outside of the Shed, on the south side. Equipment, such as all-terrain vehicles, weed whackers, and generators, that contain fuel are stored inside the Shed and the two, 40-foot-long steel storage containers on the south side of the shed. Because of their location, the onsite chemicals and fuels stored in the Shed and flammables cabinet would not be seriously threatened by wildfire. Another CONEX is located near the East Trenches Plume Treatment System and provides support and storage for a photovoltaic system. The solar panels are mounted on the CONEX and batteries, electrical panels, and other equipment are in the CONEX.

Other types of equipment at the site include groundwater monitoring wells, groundwater treatment systems, and surface water monitoring equipment (flumes, automated samplers, solar panels). Parts of this equipment could burn or be damaged by a fire.

3.4.2.2 Utilities

Two types of utilities still cross the site. A high-voltage power line crosses the eastern edge of the COU, and two underground natural gas lines cross beneath the site (one running east–west and another running north–south). Small portions of the natural gas lines are exposed to the surface. Any projects that are planned near either of these utilities must be evaluated for potential impacts to or from these utilities. A transformer that shorted on an electrical line near Highway 128 in 2006 caused the largest grassland wildfire in recent history at the site. Therefore, although both of these utilities have the potential to be a fire hazard, a wildfire would pose little threat to either of these utilities because the electrical lines are high in the air on steel towers and the natural gas line is buried several feet below ground (except for several short lengths). Both were burned over by the 2006 wildfire, and neither was damaged.

3.4.2.3 Grass Fuel

As stated above, since 1972, wildfires have not been allowed to burn, and only one controlled burn has been conducted in the grasslands at Rocky Flats. Fire return intervals (i.e., the number of years between two successive fires at a given location) for these types of grasslands range from approximately 10 to 35 years, allowing for a rapid departure from the historical fire regime conditions when fire is excluded. As a result of the lack of fire in recent years, a fuel load of dead vegetation or thatch has been accumulating in the grasslands at the site for the past few decades. The arid environment at the site results in slower decomposition rates than those in the eastern part of the country. Additionally, a lack of grazing on the site’s prairies tends to promote greater thatch levels as compared to surrounding grazed private and open-space properties. Although the greatest extent of the higher grassland fuel load is now on RFNWR land in the POU area, some areas are found in the native grassland areas of the COU. Much of the COU, however, consists of reclaimed grassland areas that often still have sparse vegetation that would probably not carry a fire.

The native grasslands at the COU are characterized by tall- and mid-grass species, such as big bluestem, little bluestem, Indian grass, blue grama, western wheatgrass, needle-and-thread, and prairie Junegrass, in addition to common reclamation grasses, such as smooth brome and intermediate wheatgrass. These grasses are adapted to the relatively frequent disturbance of fire

and benefit from fast-moving, “cool” fire, as it will remove excessive dried biomass and add nutrients to the soil. Where higher accumulations of thatch are present, and if fires are slower-moving, higher-intensity fires can occur and cause more damaging effects, such as a reduction of grass cover, increased erosion, or encroachment of nonnative species.

3.4.2.4 *Shrublands and Woodlands*

Riparian woodlands and shrublands occur along the streams in the bottoms of the drainages at the site. The riparian areas are dominated by scattered plains cottonwood and peachleaf willow trees, coyote willow, and wild indigo shrubs. Due to the narrow nature of the riparian woodland and shrubland areas at the site, they are not considered a major fuel load source.

3.4.2.5 *Landscaping Trees*

A few small, isolated patches of planted landscaping trees (ponderosa pine, Rocky Mountain juniper, and Colorado blue spruce) remain scattered throughout the former Industrial Area. These are not considered a major fuel load source.

The potential for each of these fuel types to burn will depend on fuel moisture, fuel loading (density of fuels), air temperature, humidity, and wind. These can independently or corporately influence the fuels’ ability to burn.

3.5 Environmental Considerations

Fire, from wildfires or prescribed burns, can impact various environmental resources at the site. Environmental considerations evaluated in this document include air quality and smoke management, cultural resources, endangered and threatened species, groundwater and surface water protection, hazardous and radioactive waste, migratory bird protection, and watershed protection.

3.5.1 Air Quality and Smoke Management

Although no prescribed or managed burns are planned for the near future at the site, all prescribed or managed burns at the site would follow and comply with current federal, state, and local clean air, smoke mitigation, and visibility regulations that apply to managed burns. A burn plan would be written, and all necessary burn permits would be obtained before a prescribed burn was conducted. A smoke management plan will be developed and implemented for any prescribed burns.

3.5.2 Cultural Resources

Cultural inventories conducted at the site in the past did not identify any resources remaining after closure that were recommended for inclusion on the National Register of Historic Places. Therefore, the site has no cultural resources that would require protection from either wildfires or prescribed burns.

3.5.3 Endangered and Threatened Species

The only species listed under the Endangered Species Act that is present at the site is the threatened Preble's meadow jumping mouse (Preble's mouse; *Zapus hudsonius preblei*). The Preble's mouse lives along most of the streams at the site. The protected habitat of the Preble's mouse at the site is delineated on a map, which the U.S. Fish and Wildlife Service (USFWS) agreed with in the Programmatic Biological Assessment (PBA) and resulting Biological Opinion. These documents were the result of Section 7 consultation with USFWS for cleanup, closure, and post-closure activities at the site. USFWS issued a Final Rule on the Revised Critical Habitat for the Preble's Meadow Jumping Mouse in Colorado on December 15, 2010 (Federal Register Vol. 75, No. 240). This rule designated critical habitat for the Preble's mouse at Rocky Flats. As a result, LM has re-initiated consultation with USFWS to address weed control and other activities to update the PBA for Rocky Flats. Any activities that take place within critical habitat and/or the protected habitat areas (Preble's mouse habitat) for the Preble's mouse require consultation with USFWS before they can proceed. If an activity is not included in the PBA, additional consultation is required. The PBA outlines guidance for determining whether consultation is required and provides best management practices, activity-specific measures, and the incidental take statement (which includes reasonable and prudent measures, terms and conditions, and conservation recommendations).

A prescribed burn in Preble's mouse habitat at the site would require additional Section 7 consultation with and approval from USFWS before the burn could be conducted. After an unplanned wildfire occurs in Preble's mouse habitat at the site, USFWS requires consultation on the federal response to the wildfire. This occurred after the April 2, 2006, wildfire in the northeast corner of the site. A report was submitted to USFWS, and a concurrence letter was received from them, accepting the report.

In general, the impacts from a prescribed burn or wildfire would likely have negligible effects on the Preble's mouse. Fire is a natural process in the ecosystems along the mountain front in Colorado, and plant and animal species are adapted to it. Studies on small mammals have shown both a positive effect and no effect on the mice. After the February 24, 2002, wildfire burned across Preble's mouse habitat in Rock Creek at the site, trapping data and observations showed that the Preble's mouse was still utilizing the area adjacent to the burned area. Additionally, most native plant species are adapted to and respond well to fire, resulting in increased plant vigor, reproduction, and seed production, all of which provide additional resources for the Preble's mouse.

3.5.4 Groundwater Protection

Planning for a prescribed burn would take into account groundwater issues, including the locations of any monitoring equipment such as wells and groundwater treatment systems. Precautionary measures would be implemented to protect equipment from possible damage resulting from prescribed fires or to keep fire lines away from the equipment. Prescribed burn planning would also take into account potential erosion and sediment control issues and would follow the *Erosion Control Plan for Rocky Flats Property Central Operable Unit* (DOE 2007).

After an uncontrolled wildfire, an evaluation would be conducted to assess any potential damage to groundwater infrastructure and monitoring equipment. A groundwater protection evaluation

would also be made to determine if erosion controls are necessary to protect the water and soil resources at these locations.

3.5.5 Hazardous and Radioactive Waste

No special hazards exist at the COU. Residual radiological contamination on remaining infrastructure and building slabs and basements, and associated with subsurface soils that were not removed during closure, is buried beneath at least 3 feet of clean soil. A wildfire poses no real threat or potential for threat to any of the buried remaining contaminated infrastructure materials because (1) there is 3 feet or more of physical barrier between the ground surface where the fire would occur and the material itself; (2) the type of potentially contaminated material that remains below ground is primarily concrete, steel, or other nonflammable materials; (3) the insulating characteristics of the soil barrier would limit the transfer of heat to any of these materials; and (4) grassland fires (which would be characteristic at these specific locations) move quickly and burn cooler than shrubland or woodland fires. In addition, the vegetation at most of these potential locations is still establishing and would barely be capable of carrying or spreading a wildfire. No flammable subsurface mineral deposits, such as coal seams, that could provide an opportunity for an underground fire to occur are present in the area.

Very low concentrations of residual radioactive materials in surface soils remain in some locations in the COU. The residual risk from surface contamination was evaluated before the Corrective Action Decision/Record of Decision was issued. The risk assessment considered the effects of wildland fires in the exposure scenarios and radiation dose and risk posed by the residual contamination. Residual surface soil contamination does not pose a significant risk.

During planning for a prescribed burn or after an unplanned wildfire at any location where potential residual radiological contamination may be present, the erosion potential of the location will be assessed. As necessary, appropriate erosion controls will be installed and managed until the vegetation has reestablished to protect the soil as necessary.

3.5.6 Migratory Bird Protection

Prescribed burn planning will follow guidance found in the *Migratory Bird Treaty Act Issues, Natural Resource Management Activities, and Maintenance and Project Activities at the Rocky Flats Site* (DOE 2008). Planning would also include coordination with and obtaining any required permits from USFWS prior to conducting a prescribed burn. Post-fire surveys (after prescribed or unplanned wildfires) may be conducted to evaluate impacts on migratory birds and their habitat.

3.5.7 Watershed Protection

Similar to groundwater protection, planning of a prescribed burn would take into account surface water and watershed issues, including locations of any monitoring equipment such as surface water flumes, automated sample collection equipment, telemetry equipment, and solar panels. Precautionary measures would be implemented to protect equipment from possible damage resulting from prescribed fires or by keeping fire lines away from the equipment. Prescribed burn planning would also take into account potential erosion and sediment control issues that could

affect water quality in the watershed. Erosion control planning would follow the *Erosion Control Plan for Rocky Flats Property Central Operable Unit*.

After an uncontrolled wildfire, an evaluation would be conducted to assess any potential damage to surface water infrastructure and monitoring equipment. A watershed evaluation would also be made to determine if erosion controls are necessary to protect the water and soil resources. Surface water monitoring has not indicated any negative impacts on surface water quality after previous wildland fires.

3.6 Mitigation

3.6.1 Fuels Management

Wildfire behavior and severity are dictated by fuel type, weather conditions, and terrain. Given that fuel is the only one of these variables that can be practically managed, it is the focus of many mitigation efforts. Fuels management evaluates and treats wildland fuels to reduce their flammability or meet natural resource management goals using various techniques, including mechanical, chemical, biological, and manual control methods. In grassland communities, like those at the site, these objectives may be accomplished by reducing surface fuels through mowing, grazing, or prescribed burning. Fuel breaks may also be used to break up larger areas into smaller defendable units.

Improperly implemented fuel treatments can have negative impacts in terms of ecosystem health and fire behavior. Mowing or prescribed fire improperly applied in grasslands can degrade the health of indigenous species and create openings for invasive species. Some brush species respond to mechanical treatment with vigorous resprouting unless combined with additional cuttings, prescribed fire, or chemical treatment. The overall benefits of properly conducted mitigation treatments are, however, well documented.

3.6.2 Fuel Treatment Evaluation

Fuel treatment options typically fall into one of several categories: utilization, rearrangement, removal, disposal, conversion, or non-treatment.

3.6.2.1 Utilization

Utilization reduces fuel loads by harvesting the unwanted fuels and using them for other purposes. At the site, this could be done by grazing animals that would eat the grassland vegetation and reduce the amount of vegetation biomass available for a fire. Several problems exist with utilizing this option at the site. First, for security and operation reasons, DOE has never allowed grazing at Rocky Flats since it first obtained the property in the early 1950s. Second, it would be extremely costly to install the fencing and stock crossings necessary to create functional grazing management units within the COU. Third, remedy-related equipment (monitoring wells) and systems (groundwater treatment systems, landfill covers) are present throughout the COU and would require additional fencing to exclude grazers. Regulatory requirements mandate that these systems function properly, and grazing animals would be able to continually destroy components of the systems with unrestricted access. Fourth, riparian areas would have to be fenced off to keep the grazing animals from destroying them (and the Preble's

mouse habitat there). Section 7 consultation with USFWS would be required for any grazing or other proposed fuel reduction activities in Preble's mouse habitat at the site. Finally, a full-time shepherd would probably be required to oversee the animals while they were onsite—to make sure they did not escape into areas where they are not allowed. Therefore, grazing is not considered a practical option for fuel reduction at the site at this time.

3.6.2.2 Rearrangement

Fuel loads are rearranged by redistributing onsite fuels to a condition that is less hazardous, enables more rapid decomposition, or enables more effective disposal. The use of the onsite road system as firebreaks is one means of breaking up the larger patches of prairie. The main roads are maintained vegetation-free and are bladed at least annually. Other than this, there is no practical means to rearrange the grassland fuels at the site.

3.6.2.3 Removal

Removal takes the fuels offsite for further utilization, storage, or disposal. There is no practical means to harvest the vegetation from the COU. The rocky nature of the ground surface has destroyed mowing equipment in the past and is not conducive to baling or harvesting equipment. Also, the height of the vegetation in most years would make it impractical and of little value to harvest. Additionally, the noxious weeds present at the site would likely prohibit the vegetation from being used elsewhere for feed or other uses under current Colorado statutes.

3.6.2.4 Disposal

Disposal reduces or eliminates the fuels onsite by manual, mechanical, chemical, biological, and prescribed fire treatments. All of these management tools, with the exception of prescribed fire, are currently utilized at the site at varying scales. Manual and mechanical removal of vegetation is conducted as part of weed control activities. These activities are restricted to small, localized weed infestations, however, due to the labor-intensive requirements and associated costs. Additionally, the rocky nature of the ground surface at the site has destroyed mowing equipment in the past—to the point where the subcontractor finally quit because of equipment replacement and repair costs. Chemical control is used for weed control activities. Although it is used on a large scale, selective herbicides are used to target specific weed species. It is not applied to remove all of the vegetation, nor would it be practical or desirable to do so. The goal is to reduce undesired species and increase the cover of desirable species (primarily grasses). Increased desirable vegetation cover helps prevent erosion and protects surface water quality. Biological controls are used to assist in the control of certain noxious weeds, but these are of very limited value with respect to fuel reduction. Grazing of animals as a biological control, as discussed above, is not practical at the site currently. The use of prescribed burns is currently not approved for the site. While disposing of—and thus reducing—the fuel loads is probably the most practical and feasible of the options, it would also be a momentous task to take on. Prescribed burns at Rocky Flats would require much public education due to perceived public perceptions of possible contaminant release as a result of a fire. Also, much of the COU is currently in a state of revegetation. Therefore, many areas still have such sparse vegetation that a prescribed fire would probably not carry through them. However, some of the undisturbed, native areas within the COU or locations along the fences that fill up with windblown tumble weeds could be areas where small prescribed burns could be implemented.

3.6.2.5 Conversion

Conversion of fuels by replacing them with less flammable fuels or with fuels less resistant to suppression is not practical at the site. There is no practical substitute to replace the native prairie.

3.6.2.6 Non-treatment

A cost analysis was done to determine the viability and cost effectiveness of potential fuel reduction treatments at the site. Given the low frequency of wildfires at the site, the scattered locations of infrastructure, the impracticability of implementation for most fuel reduction methods (as outlined above), and the high cost of implementing such methods, non-treatment (or targeted treatment on a limited scale) is the most practical treatment for the site at this time. Given the low frequency of wildfires at the site, the cost of implementing a fuel reduction program would be higher in the long-term than the repair or replacement costs that would result from a wildfire.

Selected treatment of fuels (along with non-treatment) on a very limited scale to protect specific remedy-related infrastructure is the most realistic option at this point. Current limited fuel reduction treatments at Rocky Flats are:

- Selective mowing (weed-whacking or mowing of spot weed infestations). This works for small-scale areas where weed-whacking is practical or where the ground surface is suitable to operate mowing equipment.
- Herbicide applications. Applying herbicide to control weeds reduces the abundance of many noxious weeds that would otherwise contribute to fuel loading.
- Grading of site roads. The annual grading of site roads removes vegetation from road surfaces and, thus, effectively maintaining them as fire breaks.

3.7 Response to Fires at the Site

The current fire response at Rocky Flats is one of suppression, but the fire response in any particular situation is the decision of the local fire district authority.

Prescribed fire—a tool to accomplish resource management objectives, such as reducing hazardous fuel, increasing plant species diversity, and abating noxious weeds—is not currently used at Rocky Flats. Any future use of prescribed fire would require the appropriate wildland fire planning, permits, and approvals prior to implementation.

3.7.1 Initial Response

Based on experience, it is expected that fire responders would arrive within 20 minutes of dispatch by a Public Service Answering Point, with an equipped vehicle and qualified crew appropriate to mitigate the event as reported. This time is considered from the home station of the apparatus and assumes that road conditions are unimpeded by severe weather conditions or unanticipated road closures or blockages. It also assumes that an area disaster-type incident has not stressed local first responder resources. Anticipated conditions such as normal rush-hour

traffic are encompassed within the 20 minutes. This time does not apply to backup units, additional alarm units, or specialty apparatus such as boats, heavy rescue vehicles, and hazardous-material vehicles—the latter three being in addition to a 20-minute-criterion first responder vehicle.

There is no assurance that federal or contracted employees will be onsite at the initiation or early stage of emergencies to provide information or assistance. Typical work activities at the site include servicing air, surface, and groundwater monitoring stations; maintaining fences; controlling erosion and weeds; revegetation; ecological monitoring; and similar activities. Visitor volume at the site is projected to be low. Surface mining of aggregates may be in progress along the north side of the Access Road. Such activity is by private commercial interests exercising mineral rights on Rocky Flats.

A USFWS gate approximately 0.25 mile east of State Highway 93 allows primary road access to the COU. The COU is surrounded by a four-strand barbed-wire fence. Gates around the COU perimeter fence are in five different locations.

No assured water supply is present at the site, so fire responders would be responsible for securing and providing all water necessary for the control or extinguishment of fires. Automatic alarms, hardwire telephones, or commercial electricity or water services are not available on the site. Overhead electrical high-voltage transmission lines and two buried natural gas transmission lines transit the site.

3.7.2 Resources

When a site incident or area emergency situations have stressed in-house resources, the utilization of mutual-aid or other backup agreements to provide timely response or assistance is appropriate. Subcontractors who are members of regional consortiums, such as hazardous material and technical rescue teams, are considered in-house resources.

3.7.3 Incident Reports

LMS incident reporting is required in accordance with LMS procedures and timelines. Certain types of incidents must be reported and classified within 2 hours.

4.0 References

BLM (Bureau of Land Management), 2001. *Review and Update of the 1995 Federal Wildland Fire Management Policy*, Bureau of Land Management, Boise, ID, January.

CDPHE, DOE, and EPA (Colorado Department of Public Health and Environment, U.S. Department of Energy, and U.S. Environmental Protection Agency), 1996. *Final Rocky Flats Cleanup Agreement*, Federal Facility Agreement and Consent Order, CERCLA VIII-96-21 RCRA (3008[h]) VIII-96-01, State of Colorado Docket #96-07-19-01.

DOE Orders:

420.1B, *Facility Safety*, April 19, 2010.

DOE (U.S. Department of Energy), 1999. *Vegetation Management Environmental Assessment*, Rocky Flats Field Office, Colorado.

DOE (U.S. Department of Energy), 2004. *Implementation Guide: Wildland Fire Management Program for use with DOE 450.1, Environmental Management Program*. U.S. Department of Energy, Washington, D.C., February.

DOE (U.S. Department of Energy), 2007. *Erosion Control Plan for Rocky Flats Property Central Operable Unit*, U.S. Department of Energy, Office of Legacy Management, Grand Junction, CO, July.

DOE (U.S. Department of Energy), 2008. *Migratory Bird Treaty Act Issues, Natural Resource Management Activities, and Maintenance and Project Activities at the Rocky Flats Site*, U.S. Department of Energy, Office of Legacy Management, Grand Junction, CO, September.

DOE (U.S. Department of Energy), 2013. *Rocky Flats Site Operations Guide*, U.S. Department of Energy, Office of Legacy Management, Grand Junction, CO, June.

EPA, DOE, and CDPHE (U.S. Environmental Protection Agency, U.S. Department of Energy, and Colorado Department of Public Health and Environment), 2006. *Corrective Action Decision/Record of Decision for Rocky Flats Plant (USDOE) Peripheral Operable Unit and Central Operable Unit, Jefferson and Boulder Counties, Colorado*, September.

NFPA (National Fire Protection Association Standards)
Standard 1143, Wildland Fire Management
Standard 1144, Protection of Life and Property from Wildfire

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