

WILDLAND FIRE MANAGEMENT PLAN

Golden Spike National Historic Site



Department of the Interior
National Park Service



Submitted by:

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I. INTRODUCTION

This plan is intended to guide the staff of Golden Spike National Historic Site in protection and preservation of park resources and values, in relation to wildland fire management. This Plan, Director's Order 18, Department of Interior and National Park Service policy, and directives from the National Wildfire Coordinating Group (NWCG), will provide the basic guidance for all wildland fire related management decisions at Golden Spike NHS.

Fire is an important and inevitable part of America's wildlands. It is now widely recognized that we must restore fire to many areas from which it has been excluded. Wildland fires can produce both benefits and damages - to the environment and to people's interests. By working together, people can maximize the benefits of wildland fire and minimize the damages, including threats to public health.

This plan is written to implement changes in philosophy and function from previous policy, that includes a shift from designating fires as wildfires or prescribed fires to classifying all ignitions as wildland fires. The new policy directs use of appropriate management strategies that efficiently permit the accomplishment of safety, protection, and land and resource objectives. The entire wildland fire management program is predicated on greater consideration of firefighter and public safety and use of wildland fire for beneficial purposes. Specific wildland fire use objectives may be accomplished through the intentional application of planned ignitions by managers.

This plan is designed to implement a prescribed fire program at Golden Spike National Historic Site. Under it, Golden Spike would be classified as a FIREPRO category 2 park (wildland fire suppression and prescribed fire). There are no provisions to manage unplanned wildland fires under a fire use option. Use of tactics and techniques that minimize suppression impacts on Site resources may result in wildland fires being held at roads rather than attacked directly; this is considered an appropriate management response under guidance of this plan and federal fire policy.

II. COMPLIANCE WITH POLICY

The park's fire management plan and objectives conform to the referenced objectives and policy documents. This plan meets standards for compliance with the National Environmental Policy Act (NEPA). An Environmental Assessment (Appendix H) analyzes alternatives and potential impacts of fire use. The preferred alternative is suppression and prescribed fire. A Finding of No Significant Impact is expected. The plan also complies with the National Historic Preservation Act (NHPA). A member of the Utah State Office of Historical Preservation assisted in development of the fire use section of this plan. A copy of the plan will be provided for concurrence of that office. No compliance requirement currently exists for suppression of wildland fires.

A. Enabling Legislation and Park Objectives

The 1965 enabling legislation authorized funds for the purchase of land within the park boundary and for staffing and facility improvements by the National Park Service. The legislation was made law "for the purpose of establishing a national historic site commemorating the completion of the first transcontinental railroad across the United States on the site."

Golden Spike NHS was established to:

- To commemorate completion of the first transcontinental railroad across the United States as a public national memorial.
- To preserve and protect the resources, historic sites, and knowledge for public use, enjoyment, education, inspiration, appreciation, and benefit.
- To provide and maintain markers, buildings, facilities and other improvements for the care and accommodation of visitors.

B. National Park Service and Department of Interior Wildland Fire Policies

NPS Wildland Fire policy is expressed in NPS-18, draft Director's Order #18 (12/01/97), and is incorporated by reference. The objectives of the NPS wildland fire management program are

1. Maximize overall benefits and minimize damages of wildland fire use within the framework of land use objectives and resource management plans while giving primary consideration to firefighter and public safety.
2. Manage the wildland fire program in accordance with congressional intent as expressed in the annual appropriation acts and comply with applicable Departmental Manual and NPS management policies.
3. Educate employees and public of scope and effect of wildland fire management to include fuels management, resource protection, prevention, hazard/risk assessment and mitigation, and rehabilitation.
4. Stabilize and prevent further degradation of natural and cultural resources lost in and/or damaged by impacts of wildland fires and/or fire management activities.
5. Organize and maintain a service-wide organization which consistently applies the highest standards of professional and technical expertise in planning and safely implementing an effective wildland fire management program.
6. Integrate fire management with other aspects of park management.
7. Manage wildland fire incidents in accordance with accepted interagency standards, using appropriate management strategies and tactics and maximize efficiencies realized through interagency coordination and cooperation.
8. Manage wildland fire as an essential ecological process to restore, preserve, or maintain wildland ecosystems through the use of science acquisition of baseline and monitoring information to evaluate and improve the program.
9. Manage wildland fuels to protect life and property and accomplish resource management objectives, including re-introduction of the natural role of fire in fire-dependent ecosystems.

Department of The Interior policy on wildland fire (DM 910 Chapter 1) states,

"A. Firefighter and public safety is always the first priority. All Fire Management Plans and activities must reflect this commitment.

"B. Every area with burnable vegetation must have an approved Fire Management Plan. Fire management plans must be consistent with firefighter and public safety, values to be protected, and land, natural, and cultural management plans and must address public health issues. Fire management plans must also address all potential wildland fire occurrences and include the full range of wildland fire management actions....

"C....use of fire for natural and cultural resource management requires an approved plan which contains a formal prescription.

"D. Wildland fire will be used to protect, maintain, and enhance natural and cultural resources and, as nearly as possible, be allowed to function in its natural ecological role.

C. NPS Fire Management Authorities

The legislative authority for fire management in the Department of Interior is listed in DM 910 1.1.

NPS fire management authority is found in the National Park Service Organic Act (16 U.S.C. 1 through 4), which states that the agency's purpose "...is to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such a manner as to leave them unimpaired for the enjoyment of future generations."

D. Definitions

Wildland fire - Any fire burning in wildland vegetative fuels regardless of ignition source. Ignitions may be planned or unplanned.

Wildland Fire Situation Analysis - A decision-making process that evaluates alternative appropriate management strategies against selected environmental, social, political, and economic criteria.

Fire management plan - A planning document associated with the management of wildland fires.

Prescription - A set of measurable criteria which guide selection of an appropriate management action to satisfy management objectives. Prescription criteria may include economic, public health, environmental, geographic, administrative, social or legal considerations.

Emergency Rehabilitation - Timely activities necessary to protect public safety, prevent immediate soil erosion or degradation of natural or cultural resources, or repair damages caused by wildland fire suppression activities.

Appropriate management strategy - A single or combination of strategies selected through a decision process to guide actions to meet objectives.

Appropriate management action - Tactical actions taken to implement a management strategy to accomplish safety, protection, and fire use objectives.

Operational management plan - A documented program of action prepared to implement a wildland fire management strategy.

Unplanned ignition - A random ignition of wildland fuels regardless of source.

Planned ignition - Fires intentionally ignited to accomplish management objectives under conditions identified in an approved operational management plan.

Hazardous fuels - Fuel conditions that present immediate risks to firefighter safety and values to be protected or poses potential threats to adjacent areas of higher protection values.

Fuel loading - Amount of vegetation on a site that can fuel wildland fires, in tons/acre.

NFDRS Fuel models - A set of 20 mathematical models of vegetative fuels used by the National Fire Danger Rating System to predict fire danger by comparing current to historic weather data.

Fire Behavior Fuel models - A set of 13 mathematical models of vegetative fuels used to predict fire intensity and rate of spread for specific sites and time periods using site-specific weather data.

Severity - An emergency increase in planned preparedness due to burning conditions being above those of the 'normal fire year,' which is defined as the seventh worst year in the past ten years at the 90th percentile of the burning index.

NWCG - National Wildfire Coordinating Group. Coordinates policy for federal and state wildland fire organizations.

III. DESCRIPTION OF GOLDEN SPIKE NHS AND ITS RESOURCES

Golden Spike National Historic Site is located in Northwest Utah, near the summit of the Promontory Range, approximately thirty miles west of Interstate 15, and is open year round. The park has a long, narrow configuration related to its roots as a working railroad. Most NPS lands are within a 400 foot wide by 15 mile long right-of-way donated by the Southern Pacific Railroad. County roads to the Site are paved and open year-round, except when closed by heavy snowfall.

On April 2, 1957, seven acres at the Last Spike Site were designated a National Historic Site, though the land stayed in non-Federal ownership. On July 30, 1965, 2,176 acres were set aside for Golden Spike National Historic Site, under management of the National Park Service. The Congressionally authorized boundary encompasses 2,735 acres; 532 of these are currently privately owned. The park is surrounded by ranch and farm lands, Thiokol Corporation, and a section of state land.

Golden Spike NHS is in a semi-arid area north shore of the Great Salt Lake and ranges in elevation from 4,300 to 4,900 feet above sea level. Vegetation of the Promontory Range includes cold desert and semi-desert communities, particularly the shadscale-kangaroo rat-sagebrush biome. The major flora is sagebrush, rabbit brush, and a variety of grasses. Large mammals such as the coyote, mule deer, bobcat, badger, and jack rabbit use the park and surroundings, as do small mammals, reptiles, insects, and numerous birds. Flocks of ducks, geese, and swans may be seen in marshes just east of the park. Numerous hawks, falcons, and golden and bald eagles inhabit the area. Detailed descriptions of natural resources can be found in the Site's Resource Management Plan.

The Site has three areas of interest -- the summit, the east slope, and the west slope. The summit is the focal point, where the Visitor Center is located. Here, on May 10, 1869, the final spike was driven to complete the nation's first transcontinental railroad. The summit area includes the site of the tent-village of Promontory and of a monument erected by the Southern Pacific Railroad in 1919. A plaque, designating the area a National Historic Site, was added in 1958. The park conducts interpretive programs near the actual location of the 1869 ceremony. Working replicas of the historic locomotives operate along a short section of track to frame these programs and bring 19th century events to life.

The East Slope includes parallel grades and rock cuts of the Union Pacific and Central Pacific railways, trestle footings, earth fills, stone culverts, and two standing Central Pacific wooden trestles. Numerous stone foundations and rock walls, leveled tent platforms, remains of pit houses, dugouts and basements, chimneys, and hearths mark remnants of worker's camps associated with final construction.

The West Slope includes a 3.2 mile grade where the Central Pacific laid a renowned "ten miles of track in one day" and portions of the Union Pacific grade that were never used. The West Slope also contains remnants of worker's camps associated with final construction.

There is no perennial surface water. Blue Creek, just east of the site, flows most of the year. Engineer Spring, on the east slope, provides water to the neighboring Adams Ranch. Golden Spike has a 427-foot well at the summit and a 100,000 gallon storage tank plus a 10,000 gallon storage tank at the visitor center. Run-off from snow melt and summer thundershowers has caused soil erosion, loss and damage to the park's cultural remains.

Annual precipitation averages 8 to 12 inches, and is mostly snow. Daytime highs range from 20 degrees in winter to 104 in summer. Winter lows are typically below 10 degrees Fahrenheit. Snow depths vary considerably, but average less than 12 to 14 inches with occasional 6 to 8 inch storm totals. Annual precipitation at Thiokol, just east of the Site, averages about 15 inches.

Golden Spike NHS is significant in that:

- It allows present and future generations to see, experience, and learn about the construction and completion of the first transcontinental railroad and its historical consequences on national identity following the Civil War and on the settlement of the American West.
- It highlights unique aspects of engineering and constructing the first transcontinental railroad.
- the only site set aside for preservation that contains evidence of parallel construction
- intact remains of culverts, grade modifications, cut and fill construction, and other on-the-ground evidence of the construction and engineering efforts
- The landscape still evokes feelings of 1869; the windswept desolation is as a reminder of the conditions under which the last segment of the transcontinental railroad was constructed.
- The replica *Jupiter* and *119* locomotives help re-create the historic and symbolic atmosphere of May 10, 1869. Their estimated value is in excess of 3 million dollars each. The locomotives are an integral part of the Northern Utah identity and tourism-related businesses of Box Elder County.
- Golden Spike enjoys strong support by "friends" groups and local communities.
- The park's cultural resources include many physical remains that document the lives of the common worker who left no written record, such as workers' construction campsites.

IV. FIRE MANAGEMENT OBJECTIVES

The park's basic resource goal is to maintain the Golden Spike landscape and vegetation similar to what existed in the late 1800's, not specifically the 1869 period, since it was a construction site then. Photos from that time show a more open grassland with a smaller brush component.

The primary fire management goal is to protect park resources. Wildland Fire Management Objectives can be stated as follows:

1. Aggressively suppress unplanned ignitions using strategies, tactics, and methods which are effective and do the least damage to resources, without compromising firefighter safety.
2. Use planned ignitions to reduce hazardous fuels, to reduce damage to cultural resources caused by encroaching vegetation, and to restore vegetation to a pre-settlement condition as possible.
3. Collect and analyze fire effects data to evaluate fire effectiveness in meeting objectives.
4. Develop and maintain cooperative agreements and working relationships with neighboring wildland fire organizations to facilitate coordinated activities.
5. Participate in interagency programs to prevent human-caused fires through notices and signs at park facilities and messages in interpretive programs.
6. Restore or replicate natural processes as practicable through prescribed fire use.
7. Promote public understanding of wildland fire management programs and objectives.

V. FIRE MANAGEMENT STRATEGIES

Unplanned ignitions will be suppressed at smallest size consistent with firefighter safety and values to be protected. Potential suppression impacts on resources will be managed by preventing off-road use of engines and vehicles in those areas, by relying primarily on hoselays to suppress fires, and allowing fire to burn and holding it at or burning out from roads and natural barriers. Two fire management units are identified and delineate areas where different strategies are used.

Prescribed fires will be used to reduce hazardous fuels, increasing safety of responding firefighters. Reductions in fuel loads will enable a strategy of safely allowing fires in Fire Management Unit 2 to be held at roads and to minimize off-road use of engines, resulting in less damage to the sensitive cultural resources in this area. Prescribed fires will help prevent further damage to cultural sites and restore and help maintain a landscape like that of the late 1800s. Historic photographs show vegetation at the Site was sparse during railway construction. Sagebrush now covers a large portion of the area. Planned ignitions will help restore or replicate natural processes interrupted by settlement, past farming practices, and fire suppression.

The concept of Minimum Impact Suppression Tactics (MIST) is to use the minimum tools and forces needed to effectively accomplish fire protection. It implies sensitivity to immediate and long-term impacts of suppression. Direct attack where firefighters "put the wet stuff on the red stuff" can do more harm than good in the long run. MIST requires initial responding units to consider less-damaging but equally effective alternative to direct attack. These are usually a combination of direct and indirect attack, burning out and holding from roads, trails, rock slides, and other barriers. MIST tactics often use water delivery by hose streams rather than scraped line built by dozers, equipment, or firefighters.

Coordination of operations with county and local volunteer fire departments and neighbors is a key to successful plan implementation. A key contact is the County fire warden.

CONSTRAINTS

1. Bulldozers and other heavy equipment will not be used except with the express approval of the superintendent (or designee if absent), or to protect the engine house from impending fire.
2. No engines or other vehicles will operate off-road and no air tanker or helicopter drops will be made in sensitive areas* except with the express approval of the superintendent (or designee if absent). (* See Appendix D and Section VI, following.)

VI. FIRE MANAGEMENT UNITS

Two fire management units are identified on a map in appendix C. Unit 1 includes all park lands from the western boundary of the park to the west end of track, approximately 340 acres. Unplanned fires in this unit will receive aggressive initial attack and suppression. Planned ignitions may be used to control hazardous fuels, but will typically be small. No prescribed burns are planned; however, small, maintenance-type burns will be needed to keep vegetation in a young stage. This unit is the narrow strip of NPS land adjacent to private property on which cattle grazing occurs November through early May.

Unit 2 is approximately 1,836 acres of the East Grade where engine and other vehicle use off-road and aerial delivery of water or retardant is restricted due to potential impacts on cultural resources. This area also includes all major facilities, the visitor center, the administrative offices, the locomotive house, maintenance shops, ranger residence, and boneyard. The unit is a focal point for treatment of hazardous fuels along roadways and cultural sites and park structures. Response to unplanned fires will use MIST tactics (Section V above) to the greatest extent possible. Plans are being developed to treat about 700 acres of this unit with fire in the next 2 years.

VII. FIRE MANAGEMENT ORGANIZATION AND RESPONSIBILITIES

All Site employees have a responsibility to support wildland fire operations as the situation demands. Personnel used in wildland fire jobs will meet NWCG and agency standards of training, experience, and fitness for the position. Cooperator standards will be accepted for their employees.

A. Superintendent

1. Ensure that an wildland fire management program appropriate to Golden Spike NHS (based on applicable policy, regulations, laws, and objectives) is planned and implemented, integrated with other programs and disciplines, and adequately supported.
2. Approve the wildland fire management plan and annual updates, interagency agreements and operating plans, prescribed fire plans, delegations of authority, and selected alternative of Wildland Fire Situation Analysis.
3. Make public and media contacts pertaining to wildland fire operations.
4. Ensure effective cooperative relations with local fire organizations and neighbors.

B. Facility Manager

1. Manage water supply, including monitoring water flow and pump operations.
2. Maintain fire equipment and vehicles.
3. Assist in structure protection during fire operations. Although not directly fire fighting, the Manager may be near active fires. Personal protective equipment and nomex will be worn.

C. Chief Ranger

1. Ensure Fire Management Plan is implemented, reviewed annually and revised as needed.
 2. Ensure adequate capability is maintained to safely implement the Golden Spike fire program.
 3. Monitor readiness and fire prevention activities as appropriate to fire danger conditions.
 4. Assure appropriate action is taken on wildland fires.
 5. Serve as Agency Representative for ICS organizations in the site or nearby area.
 6. Develop delegations of authority and WFSA for in-park fires, if needed.
 7. Serve in on-fire ICS position, as qualified.
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D. Permanent GS-9 Park Ranger

1. Park wildland fire coordinator, primary contact with Zion Fire Management Officer.
2. Maintain readiness of wildland fire equipment and personnel appropriate to fire danger.
3. Incorporate fire prevention messages into programs appropriate to fire danger conditions.
4. Coordinate weather and fuel moisture data collection and maintain records.
5. On-site coordinator for prescribed fire operations. Assist in prescribed fire planning.
6. Provide fitness and qualification records to Zion FMO within timeline provided.
7. Assign fire numbers and accounts, and complete DI-1202s and daily fire situation reports.
8. Serve in on-fire ICS position, as qualified.

E. ZION Fire Management Officer

1. When requested, assist in development and implementation of prevention, suppression, rehabilitation, and aviation programs through site visits, program reviews, inspections, budget formulation, and training.
 2. When requested, assist in coordination of reports, correspondence, preparation and review of fire management plans and participate in fire management planning.
 3. Assist in prescribed fire planning and operations, smoke management, fire effects analysis and to include plot installation and rereads.
 4. Assist in coordinating mobilization and information with Salt Lake Interagency Fire Center.
 5. As requested, coordinate and/or conduct wildland fire training to meet GOSP needs.
 6. Communicate with GOSP wildland fire coordinator on issues and concerns.
 7. As requested, manage fire qualification/training records in the Wildland Fire Computer System, including input of records, updates, and incident qualification card issue.
 8. Provide technical assistance with computer inputs into SAQS and FQS as requested.
 9. Assist in FIREPRO budget requests for equipment, training, and fuel treatment projects.
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VIII. WILDLAND FIRE USE

A. Introduction and Rationale

Because of the long, narrow configuration of Golden Spike National Historic Site, the fact that the fire behavior most likely to result from an unplanned ignition is a moderately to highly intense fire with moderate to extreme rates of spread, and the fact that it is surrounded by privately owned land, makes the Site an unsuitable candidate for management of unplanned ignitions under a fire use option. A planned program of prescribed fires can meet the fire use needs of the Site.

An on-going cycle of prescribed fires will be able to reduce hazardous fuel build-up and manage vegetation impacts on cultural and historic features for which the park was established. Currently the railroad grades, the cuts and fills, and remnants of the camps used by construction workers are being altered by encroachment of sagebrush, which is frequently four to six feet high, difficult to walk through, and decadent enough to present a hazard to firefighters because of the potentially high intensity of a wildland fire that would result from unplanned ignitions.

The strong root structure of *Tridentata* spp. is breaking apart the constructed rock foundations, grades, and cuts and increasing the rate of erosion. In addition, sagebrush covers and obscures many of these historic features beyond the ability of trained archeologists to locate and document them. This realization has come as the park is now in the process of documenting these sites with photographs, drawings, and maps. The vegetative cover makes this much more difficult.

Removal of brush by fire rather than mechanical means is preferred because fire is likely to have less an impact on the cultural resources, whereas mechanical treatment has a high potential to destroy them. Mechanical treatment may be less effective, since the *Artemisia* does re-sprout from chopped roots. There is little artifact material fire would destroy. Wood members and flammable remains that are documented will either be protected or removed prior to planned ignition. Elsewhere, prescribed burning to control shrub vegetation has been recommended as one tool in effective management of historic earthworks, such as the Golden Spike railroad grades. (National Park Service, Earthworks Landscape Management Manual, 1989).

B. Fuels, Fuel Models, and Live Fuel Sampling for Prescribed Fire

Wildland fire has shaped vegetation of the Promontory landscape. Lightning-caused fires spread freely prior to settlement. Most of the park fuels are classed in NFDRS model T, Sagebrush and Grass, best represented as Fire Behavior Fuel Model 2. This modeling assumes spread is mostly in grass, and the brush canopy burns as fire moves under it. Fuel Model 2 models grass with brush coverage less than 30%. A live fuel moisture component of this model is scaled to the grass; fire behavior predictions are affected by the moisture content of the live grass in the growing season. Fuel bed depth is one foot; total fuel load, live and dead under 3" diameter, is 4 tons/acre.

Where sagebrush covers over 30% of an area (in some parts of GOSP, 50 to 80%), fire potential indicates a brush fuel model, either Model 4 or 5. To fit these models, fire spread must mostly be from brush and brush litter. Fuel depth (height of the vegetation) is two feet or less in Fuel Model 5, and up to six feet in Fuel Model 4. Both models have a live fuel moisture component scaled to woody vegetation, which changes during the growing season, but not so quickly as grass. Areas west of headquarters are currently best represented by Fuel Model 5. Fire use to maintain this condition is desirable, since fires in Model 5 are usually not intense except in extreme conditions. Total fuel load under 3" in diameter, live and dead, is under 3.5 tons/acre, like Model 2.

Taller brush grows mostly on the East Slope, in the worker campsite areas, where water collects in depressions improves productivity. In the peak of fire season and in drought years, fire will spread from brush crown to crown, especially where slope-enhanced. In some pockets, fire behavior will reach intensities of fuel model 4, the most intense of any model. Successful treatments with fire can convert Model 4 brush into younger (and shorter) age classes typical of Fuel Model 5 or 2.

In typical conditions, tall brush is best represented by Fuel Model 6. Foliage is more flammable than Model 5, but may need wind to spread fire. Shrubs are older than Model 5, but not as high as Model 4, which reaches 6 feet and higher. Fuel Model 6 has a fuel depth of 2.5 feet. Total fuel load under 3 inch, live and dead, is 6 tons/acre. Fuel loading in Model 4, by comparison, is 13 tons/acre. A missing element in Fuel Model 6, from the others, is live fuel moisture component.

The first prescribed fires at Golden Spike are planned for spring when grass may be in green-up, but the brush is still dormant, or under 90% live fuel moisture. Fuel model 6 will be used for the prescription in those conditions. Monitoring on-site conditions, fire behavior, and fire effects will provide a basis to select other fuel models for future projects if needed. A program to sample live fuel moisture of sagebrush is planned in conjunction with prescribed fire program implementation.

C. Prescribed Fire Implementation

The primary focus is the East Grade area, approximately 1,400 acres. This is the largest block of NPS land, has the greatest cultural site density, and would most benefit. Removal of sagebrush from the Last Cut, the East Auto Tour, and the Big Fill walk will enhance visitor experience by making the parallel grades more visible, experienced as the unique structures they are. Repetitive treatments with fire are envisioned to maintain the vegetation in young age classes, less than two feet (Model 5) rather than old and decadent classes (Model 6 and 4), without deterring from the visitor experience. Long term fire effects will be monitored based upon recommended NPS protocols.

Additional treatments of smaller units are envisioned in other portions of the park, particularly south of headquarters near the locomotive house and the ranger residence. Treatment of patches of fuel west of the headquarters area should keep fuels there in a manageable situation.

Ignition will be by ground ignitors using drip torches, flare pistols, fusees, and similar devices. Holding will be done by engines, hoselays, and firefighters using backpack pumps, flappers, and hand tools. The first treatment cycle may require use of primarily off-park NPS resources; subsequent treatments could be done by GOSP or local cooperator personnel once properly trained and equipped. The goal of the park is to have the capability of a three to four person burn crew with a reliable engine equipped to support small-scale prescribed fire treatments once the initial cycle of treatments is completed.

A prescribed fire burn boss from off-park is needed to plan and implement the first prescribed fires. A burn plan will outline the first set of projects, with a multi-year implementation schedule. This plan will document objectives, organization, prescription, ignition techniques, holding, monitoring plan, and contingencies. Approval will be made by the Superintendent, on recommendation of the Zion Fire Management Officer. Tentative plans are for three prescribed fires in 1998: the Last Cut (150 acres), the Last Spike (40 acres), and East Slope (120 acres), and an additional three in 1999, Adams Ranch (40 acres) Promontory Pass (300 acres) and Park residence (10 acres).

A burn boss from another unit will be needed in the near future. As interagency prescribed fire qualifications evolve, this may change. Once initial prescribed fires are conducted, revising and updating plans is more manageable. Golden Spike may need someone on staff to plan and implement low complexity prescribed fires, similar to a type 4 or 5 incident. Contacts will be made with the Zion FMO and the Intermountain Region Prescribed Fire Specialist to assist in mobilizing NPS resources to assist with projects. The Salt Lake Interagency Fire Center will be notified of prescribed fires three days in advance and of actual times ignitions begin and end.

IX. WILDLAND FIRE SUPPRESSION

A. Fire Prevention And Education/Fire Safety

Wildland fires caused by people, their activities, their vehicles, and their equipment within and near Golden Spike National Historic Site could have serious consequences, resulting in significant personal injuries and property loss and damage. Therefore, the staff at Golden Spike will participate in interagency prevention and education efforts to increase public awareness about fire danger and help manage this risk. Signs and notices at trailhead bulletin boards and the visitor center will warn employees and the public of fire danger and fire closures or restrictions in the area, as needed, and include fire safety messages in interpretive programs. See step-up plan.

The park's locomotives are fired on wood and coal. Occasionally, hot embers escape the engines' spark arresting stacks or drop out of the ash pan below. Historically, locomotive caused grass fires were a common problem along the railroad tracks during the era of steam locomotion. This continues to be a threat with the park's historic replica engines. To combat this threat the locomotives have recently been equipped with steam powered water pumps and 100' feet of hose.

Unplanned ignitions will be investigated for cause and appropriate enforcement action taken. A Fire Prevention Assessment And Action Plan is included as Appendix D.

B. Expected Fires, Fire Behavior, Fire Season

See discussion in Fire Use Section about Fuel Models. Low humidity in summer, combined with flashy fuels, causes fires to burn hot, even with little wind; such fast moving fires can have flame lengths over ten feet up to forty feet. Rates of spread commonly exceed 100 chains per hour. During the 1996 Golden Spike Fire, the fire jumped a 180' wide fireline within one mile of the park. Behavior of this fire is probably best represented by fuel model 4; other models cannot produce the rate of spread at the low wind speed observed on this incident. 1996 was a singularly severe fire season, burning the highest number of acres in Utah history. This gives an idea of what can occur in near 100 percentile fire danger condition. Even though this fire occurred outside the park, fuels in the portions of the Site are similar.

There have been three reported wildland fires in the park and five near the park since 1990. There are nineteen recorded wildland fire responses since 1985, two structure fires, and six support actions. The 1996 Golden Spike Fire, (13,800 acres) threatened the park and park resources to the point of evacuating all nonessential personnel and park visitors on Labor Day 1996.

August and September are driest months, and therefore subject to the greatest fire threat. However, fires have occurred as early as early May. Afternoon thunderstorms are common in the summer. Frequent lightning strikes on the Promontory Mountains and surrounding area create a serious grass fire potential. Multiple ignitions are common. Often during the peak of the season, cooperator resources are spread thin and unable to respond immediately to lands near Golden Spike.

The greatest danger to the park comes from lightning-caused fires¹ pushed by prevailing winds. Winds are typically extremely variable, and as a result, wildland fire can approach the Site from any side. The park headquarters and visitor center is surrounded by a parking lot and grass is cut in May to expand the parking lot for the May anniversary. Fuel build-up is increasing around the park park ranger residence and the locomotive house. There are external propane tanks near each.

Bordering the park are cultivated fields, fields used for grazing, fields set aside under the CRP program and areas of natural vegetation. Scattered outbuildings are closely adjacent and either on flat terrain or downslope from NPS lands. Sagebrush grows tall and thick in some CRP lands.

C. Preparedness

Preparedness is the foundation of an effective fire management program. Preparedness is planning and implementing activities prior to fire occurrence. This includes actions completed every fire season and actions taken to prepare for increasing fire danger. Preparedness actions are and delineated by staffing classes in the step-up plan.

1. Fire Qualifications Needed At Golden Spike/Goals

- a. One Engine Boss/Incident Commander Type 4 or 5 - Permanent employee
- b. Two firefighter type 1/Squad Boss - Permanent employee
- c. Three firefighter type 2 - during the fire season.
- d. This provides for a crew of three firefighters on duty, allowing for lieu days
- e. Needs for prescribed fire include a Burn Boss, an Engine Boss, with three firefighters.

2. Annual Training Needs

Annual training in use of fire suppression equipment is conducted by site personnel.
Annual basic firefighter and refresher training by county or USFS.
Annual 200 level training for 2 permanent staff members, S-290 and S-231.

3. Annual Readiness

March

- Review Mutual Aid Agreements with local fire departments.
- Inventory fire equipment and initiate any needed maintenance..
- Inspect fire cache; order additional supplies needed.
- Initiate live fuel moisture sampling program for prescribed fires.

May

- Complete fitness tests per standards, update and submit documentation to Zion FMO.
- Check operation of all slip-on and portable pumps, test hose.
- Complete or schedule firefighter refresher training.
- Issue red cards provided by Zion FMO.
- Identify FIREPRO funding needs for following year.
- Maintain fire tools in cache, ready to use. Keep project tools elsewhere.

October

- Critique fire season.
- Evaluate individual performance of park staff and recommend training.
- Winterize engine and pumps as needed.
- Review and identify need to revise Fire Management Plan if necessary.

4. Engine

The current fire engine is less than desirable. It has a PTO driven pump, which requires it to be stationary when pumping, makes it difficult to use on fast moving grass and brush fires. This may pose a safety hazard, since it does not pump and roll. Electrical problems have not been solved. Replacement of this unit with a Type 6 engine is a top priority to be able to fully implement Golden Spike's Fire Management Plan, including support for planned ignitions.

D. EMERGENCY STEP-UP PLAN

It is not economical to always prepare for the worst fire season. Capability is funded for a near average season and severity funds are activated to respond to periods of very high or extreme fire danger. Step-up plans list preparedness measures designed to match the match current fire danger. **Emergency accounts may be opened and used to support actions identified in the step-up plan, with concurrence of the Zion or Intermountain Region Fire Management Officer.**

Golden Spike does not have a weather station to help determine fire danger. Fire danger indices for step-up plan will be obtained from the Salt Lake Interagency Fire Center for the nearby Federal and State lands with similar fuel and conditions. The nearest RAWS (420103) is going out of service. Salt Lake District BLM has similar fuels, so their indices should work. NFDRS Fuel Model 7T is standard for BLM RAWS. Index T1P1 uses BI of 67 as 80 percentile for VERY HIGH, and BI of 86 as 95 percentile for EXTREME. This will be used until a change is needed.

STEP-UP PLAN (Actions are cumulative, 5 includes all the steps above it.)

Fire Danger	Staffing Class	Wildland Fire Preparedness Actions
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Low	1	Prepare for season, review annual checklist. Hand tools and portable equipment ready to use. Normal tour of duty. Quick response not expected..
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Fires easily controlled unless winds drive fires through nearly green or wet fuels.

Moderate	2	Ensure fitness tests and fire gear issue when new personnel arrive. Ensure engine readiness with bi-weekly checks and start up. Orient all wildland firefighters to engine and hose boxes. If lightning is forecast and grass is cured, bump to next level.
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Fires may require water to control the head of the fire. Fire spread will continue unless checked.

High	3	Check with SLIFC for fire closures or restrictions in area. Identify two person crew to start and check engine daily. Post fire danger at visitor center; inform Zion FMO of fire potential. Engine and crew available -- 15 minute response when on duty.
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Fire spreads actively, with a well defined head. Intensity and spread may limit effective attack at the head, but attack from the back or flanks are still likely to succeed. Indirect attack may be needed at the head. Cooperators called as back-up for any response. Spotting possible, fuel is dry.

Very High	4	Engine and three person crew --10 minute response when on duty.. Contact SLIFC and County AM and PM for local fire activity. Staff extended-hours and lieu days as needed.
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Fires will be intense and fast-spreading, difficult to control. Burning out from roads and barriers or air support may be needed to control fires. Strong winds are likely. Multiple spot fires are likely

Extreme	5	Engine and three person crew available for 3 minute response. Contact Zion or Regional FMO to discuss staffing needs.
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New ignitions will exceed capability initial attack forces and create hazardous situations. Experienced Incident Commanders will be challenged to provide for firefighter safety and make aggressive action. Indirect attack may be difficult and require burning out in the dark.

E. FIRE DETECTION

Park personnel will be alert for unplanned ignitions during their regular work. Any suspected fires will be reported immediately to the Chief Ranger or Acting; fires will be reported to the Salt Lake Interagency Fire Center. Qualified firefighters on duty will respond. Once on scene, they will size up the fire and an updated report will be made to the Salt Lake Interagency Fire Center.

F. PRE-ATTACK PLAN

1. Water Sources

Engines and tankers can re-fill at the hydrants near the locomotive house or the park offices..

2. Staging Area

The visitor parking lot is available as a base and staging area for fires on park and surroundings.

3. Helispot

The mowed field directly across from the visitor center parking lot will be used as a helispot, if needed. To prepare the area, park personnel will police the area and remove any loose items that could blow into the rotors by rotor wash. The area will be flagged to keep visitors away.

4. Structure Protection Needs

Protection of the locomotive house (and the irreplaceable locomotives), the visitor center and administration building will receive the highest priority in the event of a fire in the surrounding grasslands. The visitor center is particularly vulnerable to fire from flying sparks due to the shake-shingle roof. Should a fire threaten the building, the roof should be wet down (with a foam unit if available) and a person posted to watch for starts.

5. Suppression Tactics and Strategies

Suppression efforts will be directed to safeguarding life and property while protecting the park's resources. Because of changing fire conditions and circumstances, all fires will be quickly and carefully evaluated to determine most effective suppression methods. MIST tactics and techniques will be used whenever possible. Off-road vehicle use will not occur in Fire Management Unit 2.

6. Fire Management Units

Location of a fire within the fire management unit will provide general guidelines for Incident Commanders and other responding resources, in using MIST tactics.

7. Wildland Fire Situation Analysis

When fires threaten the park, or exceed capabilities of the park and its local cooperators, the park will contact the Zion FMO for management assistance.

G. REHABILITATION

Emergency rehabilitation involves short-term actions to stabilize a burned area to prevent soil erosion or to mitigate the effects of suppression activities. Immediate actions to prevent further degradation or loss, or to ensure safety, are usually performed before resources are demobilized from an incident. Such actions typically involve organized trash pick-up, restoring soil and debris as needed to scraped fire lines, and installing water bars on slopes as needed to control erosion.

Post-incident actions must be specified in a rehabilitation plan approved by the Branch of Fire Management. Assistance will be requested from the Zion FMO should this be needed. As a general rule, burned areas that are not managed to preserve a cultural or historic scene will be allowed to re-vegetate naturally. Direct re-vegetation is a special circumstance that requires prior written approval of the Intermountain Regional Director. The severity of the fire and its resulting impact will be considered in light of the need to seed or otherwise re-establish native plant species. Rehabilitation needs should be considered for each fire, and plans prepared for those fires requiring complex rehabilitation efforts. Generally, at Golden Spike NHS, given the limited size and

sparseness of the natural fuels, species will be left to regenerate naturally in a burned over area. If re-vegetation is deemed necessary for rehabilitation of a burned area, seeds of native species listed in the Species List (Appendix E) shall be used exclusively.

H. RECORDS AND REPORTS

1. Individual Fire Report

Fires will be sequentially assigned a fire number by calendar year, and will be documented on an Individual Fire Report (DI-1202). The Incident Commander or Burn Boss will complete the fire report within 7 days after the fire is declared out. The original is retained in park files, and a copy is forwarded to Zion for data entry. For off-park mutual aid assistance or support actions, the Individual Fire Report will be completed by the Chief Ranger within 7 days after a fire is declared out, or resources return home. An annual file will be established to hold the reports for each year completed for each fire. A complete report will include the following if applicable:

1. Guidelines or delegations of authority signed by the Superintendent or Chief Ranger.
2. Copies of resource orders and personnel lists.
3. Perimeter maps.
4. Copies of Emergency Time Reports.
5. Fire Behavior Evaluation.
6. Press clippings.
7. Accident reports.
8. Weather reports and records.
9. Documentation of all financial changes made against the assigned PMP.
10. Burn plan, Rehabilitation Plan, and other special plans.

Suppression fires are assigned account numbers if there are any chargeable costs. These are assigned by the Regional Fire Program Assistant, Jeanie Harris, 1-303-969-2948.

2. Daily Situation Report

A report listing wildland fires originating or burning into the park and on-going prescribed fires will be made to the Salt Lake Interagency Fire Center daily before close of business for entry into Eastern Great Basin and National Incident Situation Reports. This report consists of number of fires, their size class, their control status, and resource committed.

If any fire exceeds 10 acres, notify the Zion Fire Management Officer as soon as possible.

X. AIR QUALITY ISSUES/ SMOKE MANAGEMENT

Golden Spike is generally free of pollution, except in the case of widespread inversions that occur in winter along the Wasatch Front. Wildland fire management activities which produce emissions are subject to, and must comply with, all applicable Federal, state, and local air pollution control requirements, as specified in Section 118 of the Clean Air Act, as amended.

It was not a primary intent of the Clean Air Act to manage the impacts of natural sources of impairment. Wildland fires can result in high, but localized, concentrations of carbon monoxide and other gases, and in concentrations of particulate matter under 10 microns in diameter, which have known health risks. These effects are generally transient and greatest effects are observed in fire fighters. Strategies of rotating personnel out of smoke into areas of clean air to allow them to recover from the effects of carbon monoxide, acrolein, formaldehyde, and other organic compounds appears to be effective. Small particulate matter (PM 10 and less) becomes trapped in lung tissue and is not expelled; therefore, firefighters should minimize exposure to smoke. Research being conducted by and for the USDA Forest Service has found that firefighter exposure on wildland fires does not exceed federal air quality standards on a diurnal basis, but they may be exceeded on an hourly basis. Smoke production at Golden Spike is not likely to seriously impact air quality in any case unless structures become involved in fires. Members of the public will be evacuated from areas threatened by fire, minimizing exposure.

Besides impacts on health, the other major impact of smoke is on visibility, but this is expected to be an insignificant impact from fires in the park. Visibility impairments from other fires in the area are likely to have a much greater potential impact. Prescribed fires will typically be relatively small to moderate sizes, of short duration, and will be timed not to coincide with times of high visitor use, minimizing impacts to all but local residents.

The State of Utah DEQ Division of Air Quality currently uses a clearing index system to evaluate potential for smoke dispersion conditions in the lower atmosphere. The index is generated daily by meteorologists at the Salt Lake City office of the National Weather Service. The clearing index evaluates both air stability or buoyancy in the lower atmosphere and the velocity of transport winds aloft. An index of 500 is the minimum considered effective for good dispersion. Prescribed fires are required to be conducted at times when the clearing index is 500 or higher. Contact will be made by the prescribed fire burn boss or designee to ensure such conditions are present and expected to remain during planned prescribed fire operations. The Air Quality Division monitors emissions along the Wasatch Front through a network of sensing stations. Testing of space shuttle rocket motors at Thiokol, just north of Golden Spike, is an industrial emissions source that is closely monitored.

Farmers and ranchers in Box Elder County routinely burn crop and range lands in the fall and spring. Acreages much larger than those in the proposed prescribed fires are burned on several days of the year. It is not anticipated that the prescribed fires proposed in this plan will have a significant impact on air quality in Box Elder County or the Wasatch Front.

XI. FIRE RESEARCH

There have been no fire research needs identified at Golden Spike NHS. Analysis of fire effects monitoring data have the potential of raising questions that can only be answered through research, especially when evaluating restoration of native grass species.

XII. MONITORING

To effectively remove sagebrush or reduce its area coverage, a moderate to hot fire is required, when live fuel moistures are low enough that the brush will ignite and burn readily. A fire that burns too cool may burn out the grass but fail to consume the sagebrush.

In order to effectively plan and predict fire behavior in prescribed fire areas, the park will sample live fuel moistures in the East Grade area. New growth will be sampled and dried every ten days between March 15 and October 1. This will help determine the most desirable conditions of the vegetation in achieving objectives of sagebrush mortality.

Fire effects monitoring is required by NPS policy for prescribed fires. A sagebrush monitoring type will be defined for monitoring vegetation changes. Monitoring variables will include species numbers, exotic species, and % coverage as well as fuel loading. Vegetation transect belt width will be three meters, cultural belt width, ten meters. Most cultural features have been identified; site protection requirements will be identified in conjunction with pre-fire transect survey. Post-fire transect reading will follow standard protocols. Undesired outcomes especially those related to exotic species will be identified to the park as soon as they are determined, for adjustment of burning prescriptions or seasons.

Weather observations (dry and wet bulb temperature, relative humidity, wind speed and direction) will be recorded by monitors hourly during prescribed fires. Flame lengths, flaming zone depth, and rate of spread will be monitored at fire effects transect locations, if this can be safely done, or safe nearby locations. Documentation of fire behavior, fuel loading, fuel reduction, and other data will be recorded on a DI-1202 fire report completed after the fire is declared out. Actual burning conditions will be recorded on a copy of the burn plan kept in the fire file at headquarters.

Fire effects data will be input into the FMH program and analyzed by the Zion fire effects monitoring crew. Reports will be provided to Golden Spike and the Intermountain Region Fire Effects Specialist as requested.

XIII. PUBLIC SAFETY

Areas of the park involved in, or threatened by, wildland fire will be closed to public access. Roads with access to closed areas will be blocked by a reflective "Road Closed" sign and trails will be flagged and posted as closed. Non-fire personnel will staff closure areas to prevent entry until the area declared safe, as needed.

In the event a park-wide evacuation is needed, employees involved in the visitor center operations will be notified first and asked to assist with the evacuation. The road west of the visitor center will be blocked to prevent access to the west side of the park. The entrance road into the park should be blocked and a uniformed park employee posted at the 4-way corner north of the visitor center to prevent additional visitor entry into the visitor center area. Announcements explaining the evacuation order will then be made over the visitor center loudspeaker and individual contacts also made with park visitors at the information desk and at the last spike site surrounding the locomotives. Visitors will be asked to leave the park in a calm, orderly and safe manner. Park personnel will be stationed at the parking lot exit, directing traffic back towards the main county road. Once all visitors have been evacuated, remaining park personnel will secure all park facilities. Employee evacuation will be at the discretion of the ranking NPS employee remaining on site or the fire Incident Commander.

XIV. PUBLIC INFORMATION AND EDUCATION

Messages tailored to local audiences will be developed to promote understanding of program objectives, focusing on prescribed fires and their benefits in managing hazardous fuels and assisting in protection of cultural and historic resources. Park interpretive staff will assist in documenting conditions before, during, and after prescribed fires in these areas and develop a display for the visitor center which can be used to educate the public on fire use. This display may also assist in public meetings conducted by NPS or other agencies to explain the wildland fire management program. A fire information and education specialist working with Zion NP may be able to assist in development of written material that can be distributed at the Site.

XV. SENSITIVE RESOURCE CONCERNS

The park's cultural resources include several hundred documented archeological sites. These sites include significant examples of construction workers' campsites that tell the story of the common workers who actually built the railroad.

These are sensitive areas, consequently no fire suppression or other vehicles will be driven within these archeologically sensitive areas* except with the express approval of the superintendent (or his designee in his absence). *refer to Fire Management Unit Map, Appendix C

Additionally, bulldozers and other heavy equipment will not be used within park boundaries except with the express approval of the superintendent (or his designee), or in defense of the engine house in the event of imminent danger to that facility.

Historic structures within the park include a number of historic wooden culverts providing drainage through the historic railroad grades. These culverts often become filled with tumbleweeds and other dry, dead plant material. In the event of a fire, this fuel would burn exceedingly hot and cause additional damage to the historic wooden culverts, as is currently evidenced by charred wooden culvert wingwalls and lintels. Suppression efforts for unplanned ignitions should include removal of excess fuels in and around culverts providing time permits this activity. Plans for any *planned* ignition will include removal of excess fuels in and around culverts prior to the ignition of the fire.

Fireline will not be built through archeological sites or across the historic railroad grades for suppression of unplanned ignitions or containment of prescribed fires. The only exception to this rule will be in the defense of the locomotive house in the event of imminent danger to that facility or during a threat to human life, developed areas, or the fire is burning on an extreme fire danger day with the probability of escape and significant damage to private buildings.

XVI. CRITIQUES AND ANNUAL REVIEW

A brief critique of operations, objectives, and safety will be conducted after every park fire and mutual aid response. The purpose of this is to immediately correct any deficiency in safety or operational procedures.

An annual review of activities and the fire management plan will be held in October. Changes and updates deemed necessary will be initiated to be in place prior to the following fire season.

Formal reviews of in-park fires may be made as specified in National Park Service policy following significant incidents. Reports of fire injuries, fatalities, and fire shelter deployments will follow NWCG and National Park Service policy.

XVII. COORDINATION AND CONSULTATION

Adrienne Anderson, Archeologist, Intermountain Region, National Park Service

Elizabeth Anderson, Fire Effects Specialist, Intermountain Region, National Park Service

Henry Bastian, Lead Fire Effects Monitor, Zion National Park, National Park Service

Jim Dykman, Archeologist, Utah State Historic Preservation Office

Trish Haines, Acting Center Coordinator, Salt Lake Interagency Fire Center

Art Latterell, Fire Management Officer, Zion National Park, National Park Service

Brock LeBaron, Technical Analysis Section, Division of Air Quality, State of Utah DEQ

Greg Martz, County Fire Marshall, Box Elder County, Utah

John Moeykens, Golden Spike N.H.S., Park Ranger

Julie Plantikow, Dispatcher, Salt Lake Interagency Fire Center

Jeff Scott, Fire Management Officer, Bureau of Land Management, Salt Lake District

Rick Wilson, Golden Spike N.H.S., Chief Ranger

APPENDIX D

FIRE PREVENTION ASSESSMENT AND ACTION PLAN

To shape an effective Fire Prevention Plan for Golden Spike National Historic Site, three fire related variables were assessed.

Risks considered those human uses or activities likely to ignite a fire.

Hazards are the fuels and topography that determine the degree of difficulty expected in suppressing a fire.

Values concern those areas where loss of certain resources to fire is unacceptable.

The following describes Golden Spike NHS:

RISK - High - The park's locomotives are fired on wood and coal. Hot embers occasionally escape the spark arresting stacks or drop out of the ash pan below. The embers combined with the surrounding dry grasslands and usually strong breezes in the area make for a high hazard for locomotive caused fires. To combat this threat the locomotives have recently been equipped with steam powered water pumps and 100' feet of hose.

A county highway runs through the Historic Site. Heavy use during fire season makes potential for human caused fires very high. Cigarettes dropped by pedestrians or thrown from vehicles pose a threat.

HAZARD - Moderate - The road, railroad tracks, trails, and adjacent tilled and fallow fields create barriers that limit fire spread.

Much of the remaining area consists of grass and sage covered fields and rolling hills. The adjacent mountains are covered with juniper. During fire season the fuel can support moderate to high intensity wildland fires.

VALUE - High - Protection of the locomotive house (and the irreplaceable locomotives), the visitor center and administration building will receive the highest priority in the event of a fire in the surrounding grasslands. The shake-shingle roofed visitor center and the wood frame construction of the engine house make them particularly susceptible to fire.

Specific Actions:

1. Clear 15 foot defensible zones around the engine house.
Responsible Person: Facility Manager On-going
2. Mow fire breaks around the perimeter of the section of land containing park facilities.
Responsible Person: Facility Manager On-going
3. Fire safety included in building and other site inspections.
Responsible Person: Park Safety Officer On-going
4. Patrol high risk/high use areas during high fire danger.
Responsible Person: Chief Park Ranger On-going
5. Include fire prevention messages in interpretive programs when fire hazard is high.
Responsible Person: Fire Program Coordinator On-going
6. Annual inspections of fire extinguishers and park structures.
Responsible Person: Fire Program Coordinator On-going
7. Inspect and clean wood pellet stove and chimney annually.
Responsible Person: Facility Manager On-going
8. Fire Prevention and Education materials available at visitor center during the fire season.
Responsible Person: Fire Program Coordinator On-going
9. Fire detection systems for public-use and historic structures.
Responsible Person: Fire Program Coordinator On-going
10. Strictly enforce all fire regulations under Title 36 CFR.
Responsible Person: Chief Park Ranger On-going

APPENDIX I

WILDLAND FIRE RELATED PHONE NUMBERS

1. Mutual Aid

The first source of assistance is local cooperators in the following priority order:

Box Elder County 435-734-2031 or 435-734-9441
 Thiokol Fire Department 435-863-4233

The second source of assistance is the Salt Lake Interagency Fire Center (SLIFC)
 phone: 801-908-1900, which mobilizes BLM and FS resources

a. Box Elder County Fire Marshall

Greg Martz c/o Sheriff's Office, 21 South Main, Brigham City, UT 84302
 phone: 435-734-9441, cell: 435-730-4107

b. Salt Lake Interagency Fire Center, 1749 West 500 South, Salt Lake City, UT 84104
 phone 801-908-1900 or 801-908-2000

2. Agency Assistance

a. Zion National Park, Springdale, UT 84767

Art Latterell, Fire Management Officer 435-772-0188
 Cyndi Sidles, Fire Program Assistant 435-772-0189

b. Intermountain Region, 12795 W. Alameda Parkway, P.O. Box 25287, Denver, CO 80225

Dan O'Brien, Fire Management Officer 303-969-2449
 Jeannie Harris, Fire Program Assistant 303-969-2948
 Dave Lentz, Prescribed Fire Specialist 303-969-2927
 Elizabeth Anderson, Fire Effects Specialist 303-969-2883

c. National Interagency Fire Center, 3833 S. Development Ave., Boise, ID 83705-5354

Rick Gale, Fire Director 208-387-5201
 David Potter, SACS Assistance 208-387-5237
 Bruce Keene, SACS Programmer Analyst 208-387-5220

3. Local Agency Assistance

a. Forest Service, 507 25th Street, Ogden, UT 84401

Lee Racham, Ogden Ranger District 801-625-5112

b. Bureau of Land Management, Salt Lake District

Jeff Scott, Fire Management Officer 801-977-4344

c. Utah Division of Forestry, Fire, and State Lands,

1780 N. Research Parkway #104, Logan, UT 84321-1940
 Craig Pettigrew, Area Forester 435-752-8701 cell 435-752-4110

4. Eastern Great Basin Coordination Center

Greg Zschaechner, Manager 801-531-5320

APPENDIX J

Date: _____

To: _____, Incident Commander, _____ Fire

From: Superintendent, Golden Spike National Historic Site

Subject: Delegation of Authority for Fire Suppression

As Superintendent, I am responsible for the safety of park visitors and employees and the integrity of park's resources and facilities. Your expertise in management of wildland fires will assist me in fulfilling that responsibility during the present situation.

By this memorandum, I delegate you to carry out appropriate management action for the _____ or fires in accordance with Department of Interior and NPS policy, NWCG standards, and guidelines provided in our initial briefing, in the park's Wildland Fire Management plan, and in the Wildland Fire Situation Analysis. These documents will inform you of the current situation, the appropriate management strategy, objectives and priorities, values to be protected, and constraints needed to protect park resources. Additional guidelines or concerns, if any, are attached.

I expect you to assume management of the fire at this time: _____

1. Your first priority at all times is safety of firefighters and the public.
2. Protection of the locomotives and locomotive house takes precedence over other park structures. Contact me or my representative before using heavy equipment for this purpose.
3. _____, whose title is _____ will serve as my representative to you and your team. He/she has full authority to act for me in my absence. Contact him/her for approvals, policy interpretation, facility use information, and park evacuations and closures.
4. The visitor center parking lot is available as a staging area, helispot, and fire camp location. The park has limited engine and water tender re-fill capability.
5. Because of potential impacts of water or retardant drops, obtain approval any such missions. Aircraft used must meet OAS/USDA standards for aircraft and pilot certification. Fixed wings will not use park roads as landing strips unless appropriate inspections are made prior to use.
6. Consistent with the strategy selected in the WFSA, minimize environmental impacts. Use MIST tactics whenever effective. Identify any specific rehabilitation needs as soon as possible.
7. Emergency funds are available, but you should be prepared to make full explanation and provide accountability for any and all expenditures.
8. Provide an ICS-209 to the Salt Lake Interagency Fire Center at required times.
9. Clear media contacts or press releases with me or my representative.

Please inform me directly of all significant occurrences, including major accidents or injuries.
