

To: State Director Nevada

From: Director OF&A

Subject: Review of the escaped Mt. Como Prescribed Fire

Attached is the final report on the Mt. Como escaped prescribed fire. The escaped prescribed fire review was conducted on October 25<sup>th</sup> & 26<sup>th</sup>, 2000 by the OF&A.

The fuels management program at the Carson City Field Office is operation within the Bureau's guidelines and has a growing fuels management workload. All of the staff that were interviewed have a positive attitude and the desire to develop a safe and effective fuels management program.

The review identified causal and contributing factors relating to the Mt. Como prescribed fire project. In reviewing the Mt. Como project, significant planning or operational failures were not found. It was not the intent of the review to do an in depth review of the Field Office or statewide fuels management programs.

The Carson City Field Office in conjunction with the State office Fire management Staff should develop an action plan to address the findings in the report. When the action plan is complete, a copy of the action plan should be forwarded to the Director OF&A.

The review team greatly appreciates the support and assistance of the State Office and Field Office management teams and staff. Any questions should be directed to Al Carriere at (208) 387-5168.

## **Mt. Como Escaped Prescribed Fire Review**

The Office of Fire and Aviation was notified on October 20<sup>th</sup>, that the Mt. Como prescribed fire had escaped and that a Type II Incident Management was being assigned. On October 23<sup>rd</sup>, it was agreed that a National Review would be conducted following the procedures outlined in the Interim Prescribed Fire Guidance (IM OF&A 2000-20.) The review occurred on October 25<sup>th</sup> & 26<sup>th</sup>, 2000.

The Team was:

Al Carriere-Team Leader: Prescribed Fire Specialist, OF&A.  
Phil Range : Prescribed Fire Specialist, OF&A.  
Joe Freeland: FMO Elko NV.

Those interviewed were:

Carson City Fire Management Officer  
Fire Ecologist and Burn Boss  
Assistant Field Manager, Chief of Renewable Resources  
Forester/Project Resource Advisor  
Squad Boss IHC  
Fire Ops Specialist

The objectives of the prescribed fire review are:

To prevent future escapes from occurring.  
To establish accountability.  
To determine if the prescribed fire plan was adequate.  
To determine if the prescription, actions, and procedures set forth on the prescribed fire plan were followed.  
To determine the level of awareness and understanding of the personnel involved. with regard to procedures and guidance.  
To determine the extent of prescribed fire training and experience levels of the personnel involved.  
To determine if overall policy, guidance, and procedures relating to prescribed fire operations are adequate.

Project Overview:

The need for the Mt. Como prescribed fire project had been identified for several years. The EA was written in 1996 and the first unit burned in 1997. The writing of the Prescribed Fire Plan for unit B was initiated in year 2000. The plan was prepared by the Fire Ecologist and reviewed by the District Fire Management Officer. The plan had a technical review by the Nevada State Office on September 9, 2000 and was signed by the Field Office Manager on September 15, 2000.

On October 18<sup>th</sup>, the Mt. Como prescribed fire was ignited at 1325 following the completion of the test fire. The on site forces included 11 people and two engines. Because no access existed to actual burn area, the engines were parked at the bottom of the area. Ignition was on the west side or upper slopes using hand ignition. The ignition went well with the fire remaining in the unit. Ignition was completed at about 1700. There was discussion that they may not want to do any additional ignition. However the fire continued to burn into the evening hours and actively backed down the hill all night.

On October 19<sup>th</sup>, the decision was made to not light any additional areas because of the evening fire activity and the forecasted winds. The decision was made to construct line around the active portion of the fire and to begin mop up operations. Additional personnel were brought in to help with this effort. They constructed line most of the day and found considerable heat along the fire line. Much of the heat along the line was in the duff, and dead materials. A fire line with trenches was constructed along the entire east side (lower slope) to catch rolling material. The only significant activity was a half acre slop over near the south end of the fire. This was contained without difficulty. The personnel on site felt good about the accomplishments of the day as related to securing the project area. About 300 acres (estimated) had been treated.

On October 20<sup>th</sup>, at 0800, there was no active fire, but several smokes could be seen. Seven people were on site and continued mop up and patrol was the plan for the day. The weather forecast was for a front to move into the area with wind speeds 5-12 mph and increasing after 1500. At 1000 onsite wind was 7 mph with gusts to 15mph. By 1500 the wind was at 10-12 mph with gusts to 30 mph. About 1530 a small interior island consisting of duff, litter brush, and 5-6 pinyon trees torched. This area was about 50 yards from the constructed fire line. A spot fire occurred just outside of the constructed fire line. Only the lookout was immediately available to respond to the torching and spot fire. He was able to construct about .5 chains of line when the wind decreased for a few minutes. The wind returned and the flames laid over the line and ignited brush over the line forcing the firefighter to retreat. Reinforcements arrived in about 20 minutes but the fire was not stoppable and long range spotting was beginning to occurring. The fire was declared a wildfire at 1645 on October 20<sup>th</sup>, 2000.

Causal Factor: The escape was caused by an interior island of unburned trees torching and causing a spot fire outside of the fire line, which could not be contained by the holding forces on site.

Contributing Factors: 1) An approaching cold front substantially increased the wind speed. This was forecasted and acknowledged by the Prescribed Fire Burn Boss. 2) There were several indications that fuel moisture levels were below normal. 3) A substantial portion of the stand had a litter/duff layer and ladder fuels not always associated with heavy Pinyon stands.

FINDING: Prescribed Fire Plan. The plan is well written, complete, technically sound, and follows BLM guidelines and policy. Several technical issues were noted.

# United States Department of the Interior

## BUREAU OF LAND MANAGEMENT

Nevada State Office  
P.O. Box 12000  
Reno, Nevada 89520-0006

IN REPLY REFER TO:  
9210 (NV-913)

March 30, 2001

EMS Transmission 03/30/2001  
Memorandum

To: Director (FA-100)

From: State Director, Nevada

Subject: Corrective Action Plan - Mt. Como Escaped Prescribed Fire

Attached is the Mt. Como Prescribed Fire Corrective Action Plan. The findings and recommendations from the National Review Team are identified first, followed by the corrective actions taken from the findings.

Our Office of Fire and Aviation will conduct additional project reviews within the state to ensure we are complying with the policy and guidance in the Prescribed Fire Management Handbook 9241-1. If you have further questions regarding this memo, please refer them to Sandy Gregory at (775) 861-6514.

Signed by:  
Robert V. Abbey  
State Director, Nevada

Authenticated by:  
Linda Nelson  
Fire Support Assistant

1 Attachment

1. Mt. Como Escaped Prescribed Fire Plan (5 pp)

**United States Department of the Interior**  
**BUREAU OF LAND MANAGEMENT**

Carson City Field Office  
5665 Morgan Mill Rd.  
Carson City, NV 89701

(775) 885-6000

In Reply Refer To:  
9214.1 (NV-913) N

March 2, 2001

EMS Transmission 3/2/01  
Memorandum

To: State Director, Nevada (NV-910)  
Attn: Fire Management Officer, Nevada (NV-913)

From: Field Manager, Carson City (NV-030)

Subject: Mt. Como Escaped Prescribed Fire Action Plan

Attached is the action plan developed from the final report on the Mt. Como escaped prescribed fire.

Signed by:  
John Singlaub  
Field Manager

Authenticated by:  
Patricia McNeil  
Administrative Assistant

1 - Attachment  
1 - Mt. Como Escaped Prescribed Fire Action Plan (4 pp)

## **Action Plan**

### **Mt. Como Escaped Prescribed Fire**

The National Office of Fire and Aviation requested that the Carson City Field Office fuels management program develop this action plan from the findings and recommendations within the Mt. Como Escaped Prescribed Fire Review report. The National Office of Fire and Aviation conducted a review of the Mt. Como escaped prescribed fire on October 25-26, 2000 and the final review report on the Mt. Como escaped prescribed fire was released January 22, 2001. This action plan will be included in the appendix of the Carson City Field Office copy of Handbook H-9214-1 (July 2000).

The findings from the Mt. Como national review with recommendations are listed below with the corrective action.

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**FINDING:** Prescribed Fire Plan. The plan is well written, complete, technically sound, and follows BLM guidelines and policy. Several technical issues were noted.

- The briefing checklist appears in the plan but was not signed by the prescribed fire burn boss as having been completed.
- The need for a test fire appears in the plan and is noted in the prescribed fire burn bosses log, but no signed documentation appears in the project file.

Note: The above two items are policy violations.

- The complexity analysis is complete and well done. Three elements have a “High” rating. Only one of these elements had the mitigating measures explained in the summary.
- The plan map, while adequate, did not show items such as fences and containment opportunities. No grid (T/R/S or Lat/Long) appeared on map.
- High and low RH’s and fuel moisture numbers are reversed in the Environmental Parameters portion of the plan.
- At the time of the review, it did not appear the Prescribed Fire Report had been completed. Weather and Fire Behavior Observation Sheets and some Burn Boss notes were in the project file.

**RECOMMENDATION:** Follow the current guidance (IM OF & A 2000-20 issued 07/12/2000) related to the above items for future projects.

**CORRECTIVE ACTION:** Strict adherence to Manual section 9214 and Handbook H-9214-1 (July 2000).

All required documentation, including the briefing checklist and test fire documentation, will be completed, signed and dated by the burn boss for each day of operations and retained as part of the project file.

All complexity analysis elements with a “High” rating will be discussed and potential consequences and mitigating measures identified in the management summary and risk assessment section of the burn plan.

The plan project area map will identify features of significance related to the project, identify all items that the burn boss should be concerned with should the fire escape and contain a location reference grid.

The environmental parameters listed in burn plans will be organized so that the numbers under low will relate to low end fire behavior (prescriptive criteria) and the numbers under high will relate to high end fire behavior (prescriptive criteria).

The post burn prescribed fire reports will be completed within 14 days of the project being declared out and retained as part of the project file. All prescribed fires will be reported on the BLM Fire Reporting System within 14 days of the project being declared out.

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**FINDING:** Weather Forecasts. Spot weather forecasts were requested and received. The first forecast significantly over predicted the RH recovery for the first night of the burn. Subsequent forecast were better but still slightly over predicted the RH recovery.

Only limited feedback was provided to the NWS. No night time observations were recorded at the site or provided to the NWS.

The NWS was provided a copy of the plan and maps well before the planned implementation. The NWS requested on-site observations for three days immediately prior to the burn. The Field Office was not able to comply with this request.

The successful implementation of the Prescribed Fire Plan relied heavily on night time RH recovery to hold the burn in place. In some places natural barriers did not exist, and no fire line was constructed prior to ignition.

**RECOMMENDATION:** For projects which rely heavily on weather conditions for containment, the Field Office should consider the use of a portable RAWS unit to obtain 24 hour information prior to and during the burn.

**CORRECTIVE ACTION:** In order to provide data for pre-ignition analysis, improve spot weather forecasts and provide on-site real-time data for burns that rely heavily on weather conditions to meet objectives and/or for containment, NIFC Fire RAWS (FRWS) will be requested through the Remote Sensing/Fire Weather Support Unit (RSFWSU) at NIFC. If a FRWS is not available for burns that rely heavily on weather conditions to meet objectives and/or for containment, weather observations will be made on-site by field personnel for multiple days prior to ignition and during the burns themselves.

In order to improve spot weather forecast for the area, feedback on the spot weather forecast should be provided each day to the NWS fire weather forecaster. On multi-day projects, the feedback will be included as part of the spot weather forecast request package.

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**FINDING:** Fuel and Burning Conditions. There were several indications that the overall burning conditions would be above what might normally be expected for the time of year. 1) No significant precipitation has been received at the site since 8/30/00 (Some minor precipitation did occur several days prior to implementation). 2) The Field Office had been receiving “severity funds” until just prior to the burn. 3) Fire restrictions for the area had just been lifted. 4) The 1000 hour time lag fuels were shown as 6 percent (extremely low). 5) The areas in at least the second year of drought conditions. 6) Pinyon pine live fuel moisture at established monitoring site were at a level equal to the long term average for the area; however, the live fuel moisture for shrubs at established monitoring sites was substantially below the long term average.

A substantial portion of the stand had a litter/duff layer and ladder fuels not always associated with heavy pinyon stands.

The potential fire behavior was identified in the Complexity Analysis as a significant issue (rated as high). However, no specific mitigating measures were identified.

The number of personnel used to implement the project was the minimum identified in the prescribed fire plan.

**RECOMMENDATION:** Prescribed fire plans are usually written for “normal” conditions. The plan and operational procedures must be adjusted when conditions are (or are expected to be) different than originally planned. The assignment of additional personnel to this project would have been justified. Verification of acceptable night time relative humidity recovery would have been proper mitigation for the fire behavior that was anticipated (see the previous recommendation).

**CORRECTIVE ACTION:** The most current “Go/No-Go” checklist (July 2000), which requires the prescribed fire team to consider unusual drought conditions and above normal fuel loadings not considered in the prescription development during the go/no-go decision, will be completed by the prescribed fire team prior to any ignition.

If burn sites have experienced unusual drought conditions and/or contain above normal fuel loadings which were not considered in the prescription development that may cause the fire behavior to be near the high end of the prescription, mitigating measures, changes to the ignition, holding and mop-up and patrol plans, will be required before proceeding.

Prescribed burns may require a trigger point or combination of trigger points (*i.e.* ERC, BI, 1000 hr. FM, Live FM) at which the burn will either not be conducted or at which a more conservative firing plan and more aggressive holding plan will be required.

The briefing checklist appears in the plan but was not signed by the prescribed fire burn 4



The process for who makes the decision whether to conduct a burn or not under unusual drought conditions and/or above normal fuel loadings will be made by the Burn Boss and/or Fire Ecologist, in consultation with the FMO/AFMO and Field Manager.

The briefing checklist appears in the plan but was not signed by the prescribed fire burn 5