

**LOWDEN RANCH ESCAPED PRESCRIBED FIRE**  
**July 2, 1999**  
**Redding Field Office, California BLM**

**Warning Signs That Compounded Into Disaster**

**Summarized from the Final Report of the Lowden Ranch Prescribed Fire Review**

- On the morning of burn, planned resources not available (were committed elsewhere).
- Burn Boss was doing last minute substitutions for resources; substitution included local Volunteer Fire Department engines.
- The local fire department personnel at the site did not meet NWCG standards for participating in prescribed fire operations.
- Line preparation work not done ahead of time, required hotshot crew to construct line on burn day, before the burn started.
- There was a locked gate uphill from unit, the key to gate not obtained ahead of time, no way to cut lock, hampered engine access to that area, no plan made ahead of time to patrol roaded area uphill from unit, fire ended up spreading in this area.
- Ignition and Holding Specialists assigned to their positions when they showed up that day, no opportunity to look at burn project ahead of time.
- Landowners adjacent to and in the vicinity of the burn were not notified of the project as per the burn plan.
- The news media were not notified of the project as was specified in the burn plan, this was particularly important due to the burn being conducted at the start of the July 4<sup>th</sup> holiday weekend.
- The Environmental Assessment (EA) written for the project stated that the burn would be undertaken in late May or early June to coincide with seed development of yellow starthistle. The EA does not address the need for multiple-year prescribed burning projects to reduce the thistle encroachment, which was what had occurred in the area. (The EA was prepared by the Burn Boss.)
- Subordinates were not adequately briefed on operational procedures, objectives, hazards, and safety issues. The briefing was conducted, but was rushed and

incomplete. One engine was not present for the briefing, and its crew was not briefed upon arrival at the site, 20 minutes after ignition.

- Burn Boss made the decision to continue the burn without evaluating fire behavior and weather conditions.
- The Burn Boss failed to recognize dangerous fire conditions existed. On May 22, at least three prescribed burns in Northern California demonstrated fire behavior outside of expected ranges of intensity, resulting in escaped fires. The pattern of dry, windy conditions began in May and continued through June, with precipitation in the area below normal from March 1, 1999, to July 1, 1999.
- While all required elements were addressed in the burn plan, the risk assessment, complexity rating, contingency planning, and fire behavior calculations were inadequate. Several other parts of the burn plan were incomplete.
- The Burn Boss trainee, who supposedly prepared the burn plan, was not qualified to do so. The Burn Boss was the reviewer, but did not provide a proper technical review of the document. It appeared that the burn plan was mostly comprised of portions of previous burn plans. The Burn Boss trainee did not sign the plan, but his name was typed into the Prepared By signature line of the burn plan.
- The safety briefing/crew briefing checklist was in the plan, but it was incomplete.
- Wind speed and one-hour fuel moisture exceeded the prescription before the test fire was ignited, and remained out of prescription until after the fire escaped.
- The description of fuels outside the unit was inaccurate, and failed to recognize a more complex fuel condition immediately outside the burn unit. In the plan, fuels outside the unit on the east side of the project area were described as grass, when they should have been classified as timber (fuel model 9). The fuel model for the burn area was not correctly identified.
- The burn plan did not identify any potential holding problems, failing to account for steep slopes east of the project boundary, and spot fires that could occur on those slopes.
- The smoke management projections were inaccurate. The actual direction of smoke travel during the project was what would be expected during normal daytime, upslope, up-valley wind conditions.
- A spot weather forecast was requested and issued on the afternoon before the burn, July 1, 1999, but no follow up information was requested on the morning of

the burn. The spot forecast accurately predicted the weather that occurred on July 2, 1999.

- All the required equipment was not on site. Four Type III engines were required by the burn plan, but only one was on site.
- Contingency resources were not specifically assigned to the project. There was some uncertainty as to the availability of these resources.
- California state burning permit requirements were not met, as the burning permit was invalid after July 1, 1999. Not all the resources listed in the burn plan were on site as required by the permit. The expired permit had been issued by CDF.
- The Burn Boss did not perform adequately as a trainer with the Burn Boss trainee. The Burn Boss failed to participate completely in the incident action plan briefing prior to ignition. The Burn Boss and trainee were in different locations during burning operations and failed to jointly coordinate the implementation of the burn.
- The Holding Specialist, Hotshot Superintendent, and most burn personnel expressed their concerns about implementing the burn when they were interviewed. They should have expressed their concerns to the Burn Boss prior to ignition.
- Ignition proceeded after continued spotting.
- The Job Hazard Analysis was completed and attached to the burn plan, but it was not thoroughly reviewed with burn personnel prior to ignition.
- Residences were included within the boundaries of the contingency plan area without identifying adequate protection measures.
- The complexity of the project was deemed LOW as per the burn plan.

**...when the standards and procedures are compromised, the potential for a wildland fire disaster increases markedly...**

**-Lowden Ranch Prescribed Fire Review Team**