UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

May 9, 2005

John Berry
Forest Supervisor
Eldorado National Forest
100 Forni Road
Placerville, CA. 95667

Subject: Draft Environmental Impact Statement for Power Fire Restoration Project (CEQ# 050111)

Dear Mr. Berry:

The U.S. Environmental Protection Agency (EPA) has reviewed the above-referenced document pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act. Our detailed comments are enclosed.

EPA commends the Forest Service for the inclusion of design features that reduce erosion and sedimentation, protect aquatic features and riparian areas, and seek to emulate natural fire patterns. Of special note are equipment exclusion zones, limited operating periods, stream and riparian area buffers, 69 miles of road maintenance and 28 miles of road improvements. While these design and mitigation measures will help minimize adverse effects, the proposed actions would still result a very high risk of Cumulative Watershed Effects (p.127) with potential adverse effects on water quality and aquatic resources. Air quality is also a concern due to potential cumulative high levels of criteria air pollutants (p. 83).

For these reasons, we have rated the Proposed Action (Alternative 2) and Preferred Alternative (Alternative 4) as Environmental Concerns - Insufficient Information (EC-2). EPA's rating and a summary of our comments will be published in the *Federal Register*. Please see the enclosed Rating Factors for a description of EPA's rating system.

We appreciate the opportunity to review this DEIS. When the Final EIS is released for public review, please send one copy to the address above (mail code: CED-2). If you have any questions, please contact me. I can be reached at 415-972-3852 or fujii.laura@epa.gov.

Sincerely,

/s/

Laura Fujii, Acting Manager
Environmental Review Office

Enclosures:
Summary of EPA Rating Definitions
EPA's Detailed Comments

cc: Patricia Ferrell, IDT Leader, Eldorado National Forest
Central Valley Region, Regional Water Quality Control Board

EPA DETAILED COMMENTS FOR THE DEIS POWER FIRE RESTORATION PROJECT, AMADOR COUNTY, CA, MAY 9, 2005

Water Resources

1. EPA is concerned with the use of ground disturbing logging methods in watersheds with very high risk of Cumulative Watershed Effects (CWE). Six out of nine watersheds have a very high risk of CWE under Alternatives 2, 3, and 4. Five watersheds under Alternative 5 and three watersheds under Alternative 1 have a very high risk of CWE (Table 3-31, p. 127). We recognize that the very high risk of CWE is due, in great part, to the adverse effects of the Power Fire, existing high road density (greater than 4 roads per square mile, p. 126), and past timber harvests. EPA also understands that CWE is a measure of the risk of cumulative effects in the event of a major storm event and not a measure of expected adverse effects under normal weather conditions.

Alternatives 2, 3, 4, and 5 (action alternatives) propose ground disturbing tractor salvage in all watersheds with very high risk of CWE. For example, 600 acres (24.4% of the watershed) in Beaver Creek and 454 acres (8.3% of the watershed) in East Panther Creek will be harvested by tractor (Table 3-25, p. 109). The effects of the Power Fire were especially severe in East Panther Creek and Beaver Creek watersheds where the fire resulted in large areas of eroding slopes near streams (p. 126).

Recommendation:
EPA recommends greater use of helicopter or skyline logging systems in watersheds with very high risk of CWE in 2010 (Lower Bear River, Beaver Creek, East Panther Creek, North Fork Mokelumne River, Table 3-31, p. 127). Where feasible, we recommend larger stream buffer zones (e.g., 100 feet versus 50 feet) and additional road treatments (rocking, reconstruction) to help compensate for the increase in very high risk of CWE. Additional monitoring to determine environmental benefits of final project design should be included in Appendix K, Aquatic resource Monitoring for the Power Fire. For instance, including monitoring for potential effects to the North Fork Mokelumne River.

2. The majority of in-channel large woody debris originates from snags within 30.5 meters (100 feet) of the channel (p. 139). Snags and vegetation along streams also provide shade that reduce water temperatures and solar radiation. The action alternatives propose logging within 100 feet of streams. These alternatives will result in a reduction of in-channel large woody debris recruitment to streams and an increase in water temperature and solar radiation (Table 3-35, p. 139). EPA is concerned with these adverse affects to aquatic communities and water quality given the existing degraded conditions resulting from the Power Fire.

Recommendation:

EPA recommends expansion of stream buffer zones to 100 feet in areas where Forest Service resource objectives for in-channel large woody debris, water temperatures, solar radiation, and water quality are not likely to be met.

3. The DEIS states that the amount of ground cover in high severity burn areas will increase as a result of woody debris left on the ground after salvage logging. This increase in ground cover will reduce erosion and sedimentation into streams and aquatic ecosystems (Appendix B, p. 267). The Star Fire is referenced as an example where measured erosion was decreased by 95% after salvage logging (p. 119). However, Table 3-31 (p. 127) clearly indicates an increase in the number of watersheds with a very high risk of CWE under the action alternatives which propose salvage logging.

Recommendation:
The Final EIS (FEIS) should provide additional information (e.g., monitoring data, citations and references, summary of research papers) to support the conclusion that salvage logging reduces overall erosion and sedimentation impacts despite the very high risk of CWE. Provide information on the Star Fire to support the comparison with the Power Fire Restoration proposal. For instance, state whether the Star Fire conditions were similar to the Power Fire existing conditions.

4. There is an active grazing allotment in the Power Fire area which is currently in non-use status for resource protection (p. 377). In a separate action, the Forest Service may allow cattle to return to the fire area in 2006 (p. 46). Cattle can cause soil compaction, additional erosion, and provide a vector for noxious weeds. Therefore, we are concerned with a premature return of cattle and the potential for adverse effects to water quality and ecosystem recovery rates.

Recommendation:
We recommend a careful reassessment of the return of cattle grazing into the Power Fire burn area. An environmental evaluation of the decision to allow return of cattle grazing would ensure a comprehensive reassessment and evaluation of potential environmental effects and tradeoffs of this decision. The Forest Service should commit to such an environmental evaluation in the FEIS. The future environmental analysis should evaluate prohibiting cattle use in riparian areas and steep areas and identify specific mitigation measures to minimize effects of cattle use within the Power Fire burn area.

Alternatives

Alternative 4, the Preferred Alternative, is the same as Alternative 2, the Proposed Action, except that in Alternative 4 the salvage harvest is designed to leave snags for wildlife in varying sized patches instead of individual trees spread over the landscape (p. 29). The DEIS states that providing patches of snags may more closely resemble the effects of a natural fire regime with variable patches or gaps in stand mortality (p. vi). As a result of this harvest approach, the landscape would contain patches of snags surrounded by areas with few snags (p.

218) and would increase the total sawtimber volume, generating more net dollars which can be applied to restoration activities (p. 204). EPA is concerned that this timber management system may be new and untested, and, as such, may require adaptive management.

Recommendation:
The FEIS should provide information and data on previous applications of the snag patch design. Describe whether this salvage harvest design better achieves Forest Service goals for wildlife, water quality protection, large in-channel woody debris, snag retention, and long-term ecosystem desired conditions. Commit to monitoring the environmental outcomes of this approach. Where the snag patches may not fully meet Forest Service management objectives (e.g., visual quality, snag retention, erosion control), provide more snags per acre on harvested areas outside the snag patches. The FEIS should commit to using a specified percentage of sawtimber profits for restoration activities.

Air Quality

1. Amador County is in Federal non-attainment status for ozone, a product of volatile organic compounds (VOCs) or nitrogen oxides (NOx) (p. 79). The DEIS lacks background information on the National Ambient Air Quality Standards (NAAQS) for ozone, and does not distinguish between one-hour and eight-hour non-attainment designations. The document also does not discuss the new fine particulates NAAQS. Fine particulates are those less than 2.5 micrometers in diameter and are referred to as PM2.5.

The NAAQS for ozone was revised on July 18, 1997 (62 FR 38856) when EPA promulgated an ozone standard of 0.08 parts per millions (ppm) as measured over an 8-hour period. EPA's final rule designating non-attainment areas under the 8-hour NAAQS was published in the Federal Register on April 30, 2004. On that date, EPA announced the designation of Amador County, California, as a non-attainment area for the new ozone standard, effective June 15, 2004. EPA intends to revoke the 1-hour ozone standard on June 15, 2005. If a project is approved by a Federal agency before June 15, 2005, and the action commences before that date, then the project will need to meet the conformity requirements for the 1-hour ozone standard at 40 CFR Part 93.150-160. Actions commenced after June 15, 2005 will need to meet the conformity requirements for the 8-hour ozone standard.

The fine particulates NAAQS was established on July 18, 1997 (62 FR 38652). The standards include an annual standard set at 15 micrograms per cubic meter (based on the 3-year average of annual mean PM2.5 concentrations) and a 24-hour standard of 65 micrograms per cubic meter (based on the 3-year average of the 98^{th} percentile of 24-hour concentrations). All of Amador County is considered unclassifiable/attainment for both PM2.5 and PM10.

Recommendation:
The FEIS should provide information on the existing 1-hour and new 8-hour ozone NAAQS, and it should discuss the transition from the 1-hour ozone standard to the 8-hour ozone standard, including revocation of the 1-hour NAAQS. The FEIS should

specify which ozone standard the project will comply with for the purpose of meeting conformity requirements. It should also provide information on the NAAQS for PM2.5. A good source of current information on non-attainment areas can be found at the following EPA web site: http://www.epa.gov/air/oaqps/greenbk/.

2. The DEIS indicates that the *de minimis* level that triggers a conformity determination for a Federal action is 25 tons per year per project (tpy) of VOCs or NOx (p. 79). This is not consistent with the rates listed in EPA's general conformity regulations finalized on November 30, 1993 (58 FR 63214).

Recommendation:
VOC and NOx *de minimis* levels for conformity determinations should be corrected.

3. Although, Tables 3-17 to 3-20 (pps. 81 to 83) in the DEIS provide data on: annual criteria pollutant totals for private lands, pile burning, timber operations and project criteria pollutant totals; it is not clear how the values in the tables relate to air quality requirements, the *de minimis* levels, or how the tables relate to each other. For example, the DEIS does not define what constitutes a project pursuant to air quality regulations or provide an estimate of air quality emissions per year per project. The relationship between the data provided and regulatory requirements should be clearly stated.

Recommendation:
The FEIS should describe the relationship, if any, between the tables providing criteria pollutant totals. For example, state whether Tables 3-17 to 3-19 were used to derive the values in Table 3-20. Describe how the emissions data in the tables were determined. Define what constitutes a project pursuant to air quality regulations and provide an estimate of air quality emissions per year per project.

4. The Forest Service proposes to stage pile burning and timber operations over a one to five year period to ensure compliance with federally mandated threshold levels for ozone precursors. The DEIS therefore concludes that all alternatives are in conformity with the state implementation plan and, thus, further air quality analysis is not required (p. 83).

Recommendation:
The Air Quality evaluation in the FEIS should clearly describe the rational and data supporting the conformity decision (see EPA Air Quality comment #1). State the connections, if any, between the conclusion of conformity and the criteria pollutant total tables. The FEIS should identify, and commit to, available mitigation measures to further reduce emissions of criteria pollutants, such as measures to improve the efficiency of logging equipment, including properly tuning equipment and the use of low-sulfur fuels.

5. The DEIS provides estimates of air emissions from Power Fire timber operations and prescribed burns. Emissions are provided for VOCs, NOx, and PM10 (particulates less than 10 micrometers in diameter) for each of the five years during which the restoration will occur. In

addition, approximately 1,700 acres of privately owned lands within the fire area (representing 10 percent of the total fire area) are expected to be machine piled and burned. The DEIS adds that the Fred's Fire Restoration Project is expected to be implemented during the same time frame as the proposed alternative. The DEIS does not provide emission estimates for the Fred's Fire.

The DEIS does not clearly delineate the air shed that will be affected by project operations and does not provide a cumulative impacts analysis for all air emissions from activities related to the two restoration projects and private land owner activities. The DEIS states that while cumulative effects to air quality are likely to occur, the regulations limit emissions on a project-by-project basis regardless of cumulative effects (p. 83). While conformity determinations under the Clean Air Act may be evaluated on a project-by-project basis, the National Environmental Policy Act (NEPA) regulations clearly specify that cumulative impacts should be considered in the environmental analysis (see 40 CFR 1508.7).

Recommendation:
The FEIS should provide a substantive discussion of, and quantify where possible, the cumulative effects of the project when considered with other past, present, or reasonable foreseeable projects, regardless of what agency or person undertakes those actions (see 40 CFR 1508.7). The document should also propose mitigation for all cumulative impacts, and clearly state the lead agency's mitigation responsibilities and the mitigation responsibilities of other entities. In addition, the boundaries of the affect air shed(s) should be clearly defined.

6. Air quality monitoring during and after logging would provide valuable information on the effectiveness of dust and smoke abatement measures and air quality assumptions. Air quality monitoring is not described in the DEIS.

Recommendation:
Include a description of proposed air quality monitoring, if any, in the FEIS.

Consultation and Coordination with Indian Tribal Governments

The DEIS states that 66 cultural resource sites have been identified in the area, 61of them prehistoric Native American sites. The Power Fire significantly affected the integrity of cultural resources (p. 219). Implementation of this project, while not expected to have any direct effects on known archaeological sites, may result in ground-disturbing activities that have the potential to disturb or destroy heritage resources. While the DEIS states that tribal communities will continue to be consulted for any concerns regarding this project, it does not indicate how previous consultations took place, which tribes were consulted, and the extent of those discussions.

Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments* (November 6, 2000), was issued in order to establish regular and meaningful consultation and collaboration with tribal officials in the development of Federal policies that have tribal

implications, and to strengthen the United States government-to-government relationships with Indian tribes.

Recommendation:
The FEIS should describe the process and outcome of government-to-government consultation with the tribes in accordance with Executive Order 13175.

General Comments

1. The purpose of the proposed project is to use salvage logging to reduce long-term fuel loading to reduce future fire severity and resistance to control (p. i). However, a question remains regarding the level of fuel loading left in-place and the probability of reburn (p. iv and Appendix H, p. 369). The DEIS indicates a need for research to evaluate the probability for reburn in post-fire tree retention areas versus salvage logged sites (p. 46 and Appendix H, p. 378). Knowledge of the probability for reburn in post-fire tree retention areas versus salvage logged sites would help resolve questions regarding the urgency for post-fire logging and environmental tradeoffs of salvage logging vs no logging.

Recommendation:
As part of this and future fire restoration projects, we recommend the Forest Service consider sponsoring scientific studies to evaluate the probability for reburn in post-fire tree retention areas as compared to salvage logged sites.

2. Other fire restoration projects such as the Cottonwood Fire Restoration Project on the Sierraville Ranger District of the Tahoe National Forest have experienced conversion of forest land to brush fields as a result of wildfire and subsequent salvage logging operations. Further vegetation management using herbicides has been required to control the brush which has raised concerns regarding impacts to water quality, wildlife, and public safety. The DEIS does not state whether conversion to brush fields will be an issue in the Power Fire burn area.

Recommendation:
The FEIS should evaluate the probability of conversion from forest land to brush fields and the need for further vegetation management projects.

3. The DEIS references other wildfires, such as the Cleveland Fire of 1992 (p. 11) and Cone Fire (p. 74) to support statements regarding snag and tree survival measures. However, the relationship between these wildfires and the Power Fire are not described.

Recommendation:
The FEIS should describe the similarities and differences between the Power Fire and referenced wildfires. For example, state whether the wildfires burned the same area or overlap, share similar characteristics (e.g., fire intensity), or have similarly designed post-fire management projects. Provide the rational for referencing these other wildfires to support the proposed project actions.

4. The Fires and Fuels Section provides fuel model data and tables in its evaluation of potential fuel loading and fire intensity. Terms such as 1 hour, 10 hour, 100 hour, and 1000 hour fuels are not well defined. Nor is there a description of the differences between Fuel Models 11 and 12. It is therefore difficult to correctly interpret the data.

Recommendation:
The FEIS should explain how to interpret the fuel model data, provide clear definitions of terms and concepts, and describe the differences between Fuel Models 11 and 12. It may be helpful to provide a sample table and table interpretation. A glossary of acronyms and other technical terms would be useful.

5. The proposed project includes salvage logging in designated threat and defense areas to reduce resistance to control and to provide safe staging areas for firefighters (p. 23). The DEIS does not state how threat and defense areas were selected or describe the selection criteria.

Recommendation:
The FEIS should describe how threat and defense areas were determined. Provide the site selection criteria and the rational for placement of these defense, fuelbreak and threat zones.

6. Under the action alternatives, harvesting would only occur in areas with less than 25% fire mortality if mortality increases substantially (Table 2-2, p. 22). The DEIS does not describe the criteria that will be used to determine if mortality increases substantially enough to trigger additional logging.

Recommendation:
The FEIS should provide the criteria to be used to determine if and when mortality has increased sufficiently in lower mortality areas to warrant fuels treatment. Indicate who would make the decision and whether there will be public involvement in this decision.

7. The proposed action includes helicopter, skyline, and ground based logging systems (p. 22). Although the DEIS states that ground based logging will be avoided on slopes greater than 35% (p. 94), it does not provide other criteria used to determine what locations are designated for the different logging systems.

Recommendation:
The FEIS should provide a brief description of the criteria (e.g., slope, geology, topography, soil type, access, timber volume, presence of streams) used to determine where to use helicopter, skyline and ground based logging systems.

8. Acreage values are provided throughout the DEIS to describe and distinguish alternatives. These acreage values are not always consistent. For example, acreage values in Table 2-2 (p. 22) Harvest Acres by Logging System for Alternative 2 Proposed Action, do not match those in Table 3-25 (p. 109) Summary of Watersheds that Contain the Project Area

Treatment Acres for Alternative 2. The DEIS also states that Alternative 4 treats 732 acres less habitat than Alternatives 2, 3, and 5 (p. 173) and later states that Alternative 4 has 685 acres of less harvest activity than these alternatives (p. 179).

Recommendation:
The FEIS should correct or explain these inconsistencies.