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JUN 13 2011

Ref: 8EPR-N

Mr. Robert J. Thompson, District Ranger
Mystic Ranger District
Pactola Project
Black Hills National Forest
8221 South Highway 16
Rapid City, SD 57702

RE: EPA Comments on Draft Environmental Impact Statement, Pactola Project, CEQ # 20110135

Dear Mr. Thompson:

In accordance with our responsibilities under the National Environmental Policy Act (NEPA), 42 U.S.C. Section 4321, *et seq.*, and Section 309 of the Clean Air Act, 42 U.S.C. Section 7609, the U.S. Environmental Protection Agency Region 8 (EPA) has reviewed the April 2011 Draft Environmental Impact Statement (DEIS) for the Pactola Project. This DEIS was prepared by the Mystic Ranger District of the U.S. Department of Agriculture Forest Service (USFS) Black Hills National Forest to analyze potential environmental impacts associated with proposed vegetation treatments to reduce the threat from the mountain pine beetle (MPB) epidemic and to reduce hazardous fuels in order to minimize the potential for large-scale severe wildfires.

The Pactola Project Area is located in the Black Hills National Forest and is approximately 5 miles north of Hill City and 10 miles west of Rapid City in Pennington and Lawrence Counties, South Dakota. The project area is just west of Pactola Lake and consists of 26,017 acres, including 24,863 acres of USFS lands and 1,154 acres of interspersed private lands. The analysis area includes Pactola Lake (a major recreational complex and part of Rapid City's domestic water supply), high quality streams such as Rapid Creek, campgrounds, hiking/biking trails, and numerous privately owned subdivisions. Silver City, a designated "at-risk" community for wildfire, is located in the central portion of the analysis area.

Three alternatives are analyzed in the DEIS. At this time, the USFS has not identified a preferred alternative. Briefly, the alternatives include the following:

- Alternative A (No Action) - no vegetation management actions;
- Alternative B (Proposed Action) – approximately 13,100 acres of mechanical vegetation treatments, including commercial and non-commercial thinning and hardwood

retention/restoration; 5,000 acres of prescribed burning; and 3 miles of new roads/27 miles of road reconstruction; and

- Alternative C (based on scoping comments) – approximately 17,000 acres of mechanical vegetation treatments, similar to Alternative B, with the addition of cable and/or helicopter logging techniques; 5,000 acres of prescribed burning; and 19 miles of new roads/29 miles of road reconstruction.

In a September 3, 2010 letter, EPA provided scoping comments for this project. We appreciate that the USFS addressed many of our comments in the DEIS. As a result, our concerns with the April 2011 DEIS have been narrowed to these remaining issues: (1) aquatic resources and (2) air quality. These concerns are the basis for the EPA rating discussed at the conclusion of this letter.

1) Aquatic resources in the project area are of critical importance, requiring evaluation and mitigation of associated impacts.

EPA considers protection of aquatic resources to be among the most critical issues to be addressed in any NEPA analysis for vegetation management activities. Most treatments contemplated under the proposed action alternatives (e.g., harvest, prescribed fire, road construction) have the potential to adversely impact aquatic resources, including surface and ground waters, wetlands, streams, riparian areas, and their supporting hydrology. Given EPA's concerns regarding aquatic resources, we recommend that USFS position itself (and others) to fully evaluate impacts resulting from the alternatives by providing complete data and robust analyses of potential impacts.

Data and Consultation: We appreciate the qualitative discussion of water quality provided in the DEIS and recommend expanding it to include *Escherichia coli*, nutrient concentrations, water temperatures, and turbidity data, if they exist. In addition, numerous sections include references to more detailed data and/or maps contained in the project file. To more adequately inform the reader, we recommend incorporating a summary of these data and/or maps into the appropriate sections of the FEIS. Data and/or maps of particular interest are those referenced in the following sections: Stream Flow Regime; Water Quality; and Wetlands, Riparian Areas, and Groundwater-Dependent Ecosystems.

The Stream Channel Stability and Floodplains Section notes that "streams within the watershed analysis area have not yet been rigorously surveyed and evaluated for stream stability." We recommend that these surveys be completed and results provided in the FEIS. In addition, this section notes that more detailed field investigations and basic water quality monitoring should be completed on Jim Creek, Kelley Gulch, and Nugget Gulch in order to determine if beneficial uses and water quality criteria are threatened. We also recommend inclusion of these data in the FEIS.

The Wetlands, Riparian Areas, and Groundwater-Dependent Ecosystems Section is unclear regarding consultation with the U.S. Army Corps of Engineers (Corps) to determine the applicability of Clean Water Act (CWA) Section 404 permit requirements to wetlands in the area. Please clarify in the FEIS.

Impaired Waterbodies: Although no waterbodies within the project area are currently listed as impaired by the South Dakota Department of Environment and Natural Resources (SDDENR), Pactola Lake has

been identified as a high quality waterbody vulnerable to nutrient enrichment and sedimentation from natural soil erosion, recreational activities, and various silvicultural activities. We recommend including a discussion of how the proposed project might affect this waterbody and water quality parameters given that treatments are proposed directly adjacent to the reservoir.

Range-Related Impacts to Aquatic Resources: The project area overlaps three cattle grazing allotments on the Mystic Ranger District and one allotment on the Northern Hills Ranger District. Fencing and range improvements have been designed and constructed in a manner to protect aquatic resources from adverse impacts associated with livestock grazing. The DEIS notes that, in order to continue functioning as intended, these fences and various range improvements (e.g., water developments, spring exclosures, corrals) would need protection from project activities such as road construction, harvest machinery operation, and prescribed fire application. To clarify, please identify measures that would be used to provide these protections.

Water Quality Impacts of Beetle Epidemic: We recommend the FEIS include a watershed analysis that includes a comparison of changes in runoff and flow characteristics resulting from taking no action on the beetle-killed trees versus harvesting them. Since the science is still unclear with respect to impacts from the beetle epidemic and the beetle kill impacts to watersheds will vary by watershed, we recommend that the FEIS disclose the positive and negative impacts of both leaving the beetle-killed trees in place and removing them within this particular project area, as well as in the broader context of beetle-killed trees in the Black Hills National Forest.

In addition, the presence and handling of beetle-killed trees has the potential to impact public water supplies if it leads to organic loading of area waterbodies. Organic matter interacts with disinfectants used in the drinking water treatment process to form disinfection byproducts, which are a human health concern. Organic loading may also decrease oxygen levels that can lead to the release of metals such as arsenic, manganese, and iron from sediments. We note the DEIS reference to use of the Pactola Lake by Silver City and Rapid City residents for domestic water purposes. EPA recommends that the FEIS assess the potential for organic loading impacts to drinking water treatment and supplies.

Impact of Roads on Aquatic Resources: To reduce adverse impacts to watersheds, EPA recommends minimizing new road construction and road density, as well as locating roads to limit impacts to surface waters. The Pactola Project Alternative B would implement 27 miles of road reconstruction and 3 miles of new road construction to facilitate treatment activities. Alternative C would implement 29 miles of road reconstruction and 19 miles of new road construction. The DEIS notes that the new roads would be closed when activities are completed, but it appears that there may be caveats on which roads would be closed. Please address this point and provide total closure mileage in the FEIS.

We support the DEIS monitoring recommendations related to road maintenance, reconstruction and new construction activities. Since it is often difficult to effectively close roads in the Black Hills and negative environmental impacts associated with the new roads could continue if closure efforts are less than 100% successful, EPA recommends that a monitoring plan and schedule be developed to assess the effectiveness of road closures.

In addition, given the recent court conclusion that logging roads are point sources and thus require National Pollutant Discharge Elimination System (NPDES) permits as a source of industrial stormwater, we recommend the FEIS acknowledge that any new and recommissioned logging roads necessary for the project may require permit coverage. See *Northwest Envt'l Def. Ctr. v. Marvin Brown, Oregon State Forester* no. 07-35266 (9th Cir. Aug. 17, 2010).

Design Criteria, Mitigation Measures, and Monitoring: The DEIS notes that stream channels and wetlands in the project area are already impaired and unstable systems, and groundwater in the Black Hills can have high contamination potential. Given the importance of the high quality waterbodies and wetlands in the area, as well as surface water use and groundwater wells for residential and municipal water supplies, commercial and industrial uses, livestock water, and irrigation, we recommend all relevant, reasonable monitoring and mitigation measures to protect these water sources even if they are outside the jurisdiction of USFS.

Appendix B, Design Criteria, Mitigation Measures, and Monitoring, notes that Watershed Conservation Practices (WCPs) and South Dakota Best Management Practices (BMPs) will be implemented to protect these aquatic resources. We recommend that the applicable WCPs and BMPs be listed in the FEIS along with a discussion of how the USFS intends to ensure that these design criteria are properly implemented and adhered to in order to ensure that no substantial or long-lasting effects to aquatic resources result from project activities.

We support the extensive list of project design criteria to protect aquatic resources, including special requirements for high quality wetland resources such as springs and fens. To ensure that project activities do not adversely impact aquatic resources, we recommend expanding the list as follows:

- Require revegetation of all disturbed areas with native seed mix within the same growing season they are disturbed, and monitor revegetation efforts for five years to ensure success.
- Specify steps to protect range improvements from mechanical vegetation treatments and prescribed burning.
- Monitor breakdown of hydrophobic soils for five years following prescribed burns.
- Monitor impacts to water quality from treatments proposed adjacent to Pactola Lake.
- Monitor stream channel stability.
- Develop a monitoring plan and schedule to assess the effectiveness of road closures.

2) Air quality impacts associated with the project are a critical concern that must be fully evaluated.

The project area is near the population center of Rapid City, as well as two mandatory Class I Federal areas (Wind Cave National Park and Badlands National Park). In addition to health-based standards to protect ambient air quality, the Clean Air Act (CAA) requires special protection of visibility in the nation's large National Parks and Wilderness Areas (identified as mandatory Class I Federal areas). EPA's CAA implementing regulations require states to submit State Implementation Plans that, among other things, demonstrate attainment of the National Ambient Air Quality Standards (NAAQS), as well as reasonable progress toward the national visibility goal. Actions by Federal Land Managers that lack adequate mitigation of air quality impacts could impede a state's ability to meet CAA requirements.

Data: The DEIS includes some qualitative discussion of air quality, noting that current fine particle pollutant levels in the State of South Dakota are in attainment status and identifies the two mandatory Class I Federal areas in the region. While we are pleased to see that there is an Air Quality section in the DEIS, EPA is concerned that no specific air quality data regarding existing conditions are provided. Given EPA's concerns regarding air quality, we recommend that USFS position itself (and others) to fully evaluate impacts resulting from the alternatives by providing a thorough characterization of existing air quality conditions in the area. To that end, we recommend the FEIS include the following:

- Identification of sensitive receptors (such as population centers and Class I and Sensitive Class II areas in the vicinity).
- Airshed classifications and baseline conditions at nearby population centers.
- Disclosure of any regional concerns (e.g., PM_{10} and $PM_{2.5}$ issues in the area).
- Trending of air quality at the nearby Class I Federal areas over the past several years.

Such data are readily available from the SDDENR and/or the EPA AirExplorer web site (http://www.epa.gov/airexplorer/ and the VIEWS site for air quality related values (AQRVs) (http://views.cira.colostate.edu/web/). Information regarding current conditions will be an important tool for monitoring the impacts of the various project activities. Decision-makers will need to understand baseline conditions in an effort to ensure that Pactola Project activities, when combined with air quality impacts from external sources, do not adversely impact the NAAQS.

Prescribed Fire: The Pactola Project action alternatives both include the application of prescribed burning to approximately 5,000 acres. This significant prescribed fire activity may cause degradation of air quality in the region. The DEIS notes that prior to ignition the USFS must demonstrate that smoke emissions would be in full compliance with the NAAQS. This demonstration would include weather forecasting and test fire observation. While we realize the individual burn plans prepared for this project would quantify expected emissions, we recommend that an estimate of predicted emissions be disclosed in the FEIS. Such information is necessary to fully inform the public as well as the decision-maker to ensure protection of air quality if the prescribed burns are ultimately conducted.

We support the prescribed fire design criteria and monitoring recommendations outlined in Appendix B of the DEIS. However, we recommend elaborating on these requirements in the FEIS to provide more specifics regarding: (1) requirements for the incorporation of the Interagency Prescribed Fire Planning and Implementation Procedures Guide (July 2008) into the site-specific burn plans designed for each prescribed burn conducted under this project; and (2) how the public will be notified of pending burns. We also recommend that USFS consult with SDDENR for any modeling, mitigation, or other measures required under State regulations or the State Implementation Plan to address CAA requirements.

Harvest-Related, Transportation-Related, and Dust-Related Emissions: Air quality is also negatively impacted by emissions from heavy diesel equipment and helicopters utilized for harvesting/thinning of trees, idling trucks used for transportation of wood products, and dust generated from proposed activities. EPA is concerned that the DEIS does not contain an inventory of predicted emissions that would be associated with the harvesting/thinning of trees and the associated project activities. We recommend that the FEIS include such an emissions inventory. If emissions are significant, then we recommend the FEIS also include an air impact analysis presenting direct, indirect and cumulative

impacts of these activities.

Further, these emissions could be addressed through project design criteria and monitoring. Example measures to consider include the following:

- Prohibit unnecessary idling of transportation trucks;
- Use low-sulfur or alternative fuels;
- Require heavy diesel equipment to use cleanest available engines or retrofits with diesel particulate control technology;
- Maintain engines;
- Expand application area for dust abatement measures and require detailed plans for dust control;
- Require prompt revegetation along new roadways and monitor for five years after revegetation to ensure success; and
- Monitor effectiveness of road closures after project completion.

Indirect Emissions: We recommend disclosure of indirect impacts from use of harvested and/or thinned trees for fuel. For instance, if any of the harvested timber would be used as feedstock for supplying fuel at a facility that provides heat and/or power, or would be converted to wood pellets or biofuels, then we suggest a discussion of specific uses and related air quality impacts, including greenhouse gas (GHG) emissions. There may be mitigation options available to address these indirect emissions.

Climate Change: We applaud the USFS for embracing the management challenges posed by climate change, and we understand the difficulties in quantifying impacts. We suggest expanding the DEIS Climate Change Section to include a discussion of how the USFS can reduce the impacts of project activities on climate change and monitor for effects of climate change on forest resources. Also, to fully inform decision-makers and the public of project activity GHG emissions and potential climate change impacts, we recommend analysis and disclosure of GHG emissions using a four-step approach:

1. Quantify and disclose projected annual and total project lifetime cumulative GHG emissions in CO_2-equavalent terms and translate the emissions into equivalencies that are easily understood from the public standpoint (e.g., annual GHG emissions from x number of motor vehicles, see, https://www.epa.gov/RDEE/energy-resources/calculator.html).
2. Qualitatively discuss the link between GHGs and climate change, and the potential impacts of climate change.
3. Include a summary discussion of ongoing and projected regional climate change impacts relevant to the action area based on U.S. Global Change Research Program assessments. EPA also recommends identification of any potential need to adapt the proposed action to these effects, as well as any potential impacts from the proposed action that may be exacerbated by climate change.
4. Analyze reasonable alternatives and/or potential means to mitigate project-related GHG emissions.

Additional Comments

National Historic Preservation Act: As noted in the DEIS, concurrence is still pending from the South Dakota State Historic Preservation Officer (SHPO) for several additional sites involving roadside or mechanical treatments. We recommend follow-up with the South Dakota SHPO to ensure that compliance with National Historic Preservation Act Section 106 consultation requirements can be adequately documented in the FEIS. In addition, to more adequately inform the reader, we suggest explanation of the tribal recommendations for landscape treatments to enhance areas for tribal use.

Environmental Justice: Executive Order (E.O.) 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," applies to federal agencies that conduct activities that could substantially affect human health or the environment. In accordance with this order, we recommend that an EIS disclose and evaluate any environmental justice concerns associated with potential impacts to rural low-income communities from project activities. Close coordination with any potentially impacted Native American tribes is encouraged.

The Pactola Project DEIS includes brief reference to an environmental justice review and notes that no communities in the project area were identified as containing low-income or minority populations as defined by E.O. 12898. To ensure a robust analysis, we encourage the USFS to consult the Council on Environmental Quality's new posting of resources on NEPA and environmental justice at http://ceq.hss.doe.gov/nepa_information/agency_resources.html.

There may be water quality and/or air quality impacts of particular concern to the health of local residents; therefore, EPA recommends the following:

- Disclosure of whether and where environmental justice communities are located in the impact area, including a description of the methodology and criteria utilized for identifying low income and minority communities, the sources of the data used for these analyses, and the references used for establishing the criteria.
- To the extent that information is available, a discussion of the potential direct, indirect and cumulative environmental impacts of project activities on these communities.
- An evaluation of the socio-economic impacts to the local communities, including any additional loading placed on local communities' abilities to provide necessary public services and amenities associated with development resulting from the project activities. Such impacts may include housing and school needs for project workers and families, burdening water, waste and wastewater handling facilities, and increased road traffic with associated dust and hazardous material spill potential. We recommend that methods to avoid or minimize such impacts be discussed in the FEIS.

EPA's Rating and Recommendation

Consistent with Section 309 of the CAA, it is EPA's responsibility to provide an independent review and evaluation of the potential environmental impacts of this project. Based on the procedures EPA uses to evaluate the adequacy of the information and the potential environmental impacts of the proposed action, EPA is rating this DEIS as Environmental Concerns – Insufficient Information (EC-2). The "EC" rating

indicates that EPA review has identified environmental impacts that need to be avoided in order to fully protect the environment. The "2" rating indicates that EPA has identified additional information, data, analyses, or discussion that we recommend for inclusion in the FEIS. Because a preferred alternative was not identified in the DEIS, we are rating the DEIS based on Alternatives B and C (we do not rate the no action alternative). A full description of EPA's rating system is enclosed.

Although Alternatives B and C received an EC-2 rating in this review, we do not view them as equivalent. The difference in proposed new road construction mileage between the two action alternatives is substantial – 3 miles under Alternative B and 19 miles under Alternative C. Therefore, EPA recommends Alternative B as the environmentally-preferable action alternative primarily due to fewer impacts to aquatic resources resulting from new road construction. Although it is the USFS's intent to close all new roads upon project completion, the difficulty of ensuring complete closure of these roads may result in long-term environmental impacts.

We hope that our comments regarding aquatic resources and air quality will assist you in further reducing the environmental impacts of this project. We appreciate the opportunity to review and comment on this DEIS. If we may provide further explanation of our comments, please contact me at 303-312-6004, or your staff may contact Amy Platt at 303-312-6449.

Sincerely,

Larry Svoboda
Director, NEPA Compliance and Review Program
Ecosystems Protection and Remediation

Enclosure

U.S. Environmental Protection Agency Rating System for Draft Environmental Impact Statements

Definitions and Follow-Up Action*

Environmental Impact of the Action

LO - - Lack of Objections: The Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC - - Environmental Concerns: The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO - - Environmental Objections: The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU - - Environmentally Unsatisfactory: The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 - - Adequate: EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 - - Insufficient Information: The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 - - Inadequate: EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment February 1987