UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
ENFORCEMENT AND
COMPLIANCE ASSURANCE

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Mr. Brian Amme
PEIS Project Manager
BLM Nevada State Office
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Reno, NV, 89520-0006

See EMC-0505

Dear Mr. Amme:

EPA has reviewed the Bureau of Land Management's (BLM) November 2005 Draft Programmatic Environmental Impact Statement (PEIS) analyzing impacts from the use of 20 approved herbicide active ingredients on human health and the environment, and the accompanying Draft Programmatic Environmental Report (PER) analyzing non-herbicidal vegetation treatments such as fire, manual, mechanical and biological control methods. Used together, herbicide and non-herbicide treatments will make up the integrated pest management (IPM) program that will apply to approximately 262 million acres of BLM public land in 17 Western U.S. states, including Alaska. Our comments are provided pursuant to our responsibilities and authorities under section 309 of the Clean Air Act and the National Environmental Policy Act.

The BLM currently treats approximately 2 million acres of public lands annually and the control of vegetation resources on these lands is directed by 4 EISs completed between 1986 and 1992. The PEIS proposes management actions that have potential to further reduce the risk of catastrophic wildfire by reducing hazardous fuels, restoring fire-damaged lands, and improving ecosystem health by controlling weeds and invasive species, managing vegetation to benefit fish and wildlife habitat, improving riparian and wetland areas, and improving water quality in priority watersheds. The PEIS analyses 5 alternatives and the potential direct, indirect and cumulative impacts associated with the use of these 20 approved herbicide active ingredients. The PER discloses potential impacts to human health and the environment from non-herbicide treatments including but not limited to fire, mechanical, manual and biological controls. However, it does not contrast and compare these with the herbicidal control options.

Alternatives analyzed in the PEIS include a No Action Alternative, which would continue

present management actions as directed from 4 previous EISs. In addition, there are 4 action alternatives: 1) the Preferred Alternative which provides for herbicide treatment on 932,000 acres annually and the adoption of 4 new herbicides for use on public lands; 2) a No Herbicide Use Alternative; 3) a No Aerial Spraying Alternative; and 4) a Restriction Alternative allowing only non-acetolactate synthease inhibiting active ingredients in herbicide formulations.

The Preferred Alternative proposes a three-fold increase of management actions to 6 million acres from 2 million acres, the present level. This alternative would allow the use of new active ingredients that are developed in the future that meet a set of specific criteria. As presented in the PEIS, this increase is necessary to respond to current wildfire and invasive and noxious weed crises. EPA supports the use of IPM and more specifically Integrated Vegetation Management (IVM) in addressing these crises. However, herbicides are only one strategy that may find value as the most environmentally sound approach to addressing these crises. Consequently, to assess and choose the best scenario requires that herbicides be compared to other management options such as fire, beneficial insects resulting in biological control, manual and mechanical methods such as weed pulling, mowing, etc. For this reason, we encourage the BLM to develop alternatives that include all management options so that the comparison is clear, and so that the decision-making process is spelled out in some detail. Because the use of fire will account for vegetation management on at least 2.1 million of the 6 million acres of treatment annually, EPA reviewed the models for visibility and the emissions inventory in the PER. Our review identified several issues with the draft air quality modeling and associated emission inventory and our detailed comments offer information for your consideration on these issues.

All management options outlined in the PEIS and PER have potential advantages and risks, and herbicide use is no exception. Based on significant increases of herbicide use described in the PEIS there is the potential for increased impacts to surface and ground water, drinking water, protected beneficial uses, and non-targeted flora and fauna. With respect to ground water recharge, herbicides which photo- or bio-degrade may be problematic if they end up in an abiotic subsurface zone. Other effects such as plant reproductive, endocrine and secondary effects are now understood as potential problems. With this in mind, we suggest that if a risk analysis reveals a potential adverse impact to surface or ground water quality, and particularly in recharge areas or source water watersheds, associated to using an herbicidal method over non-herbicidal, extra consideration should be given to the better understood option, with the least risk potential. In most cases this would be a non-chemical approach, as the risks from non-herbicidal management methods are generally better understood.

EPA believes the Final PEIS should include additional information and assurances regarding adequate monitoring and evaluation to determine if application rates are effective, buffers are sufficient, drift is minimized and specific goals and endpoints are being met. In particular, the Final PEIS should discuss in the detail appropriate for a national programmatic level document a commitment to using the best available techniques for monitoring, evaluating, and mitigating impacts from those herbicides that are known to be persistent and that migrate through soil into groundwater.

The PEIS discusses the changes that may occur in the future and how these would be handled. EPA supports the use of adaptive management and offers the following suggestion for your consideration. At the close of this process there will be an approved list of herbicide active ingredients. Concurrently, there is a an ongoing effort to develop less toxic, more selective and less persistent herbicides that offer significant reductions in risks found with older active ingredients and formulations. However, these newer, less toxic herbicides will not be on that list and will be unavailable to BLM until reviewed and approved. Accordingly, we suggest that the BLM might consider developing a protocol that would permit the use of newer, less toxic herbicides as they are developed and approved by EPA.

Based on our review of the PEIS we have rated the proposed action a Category EC-2, (Environmental Concerns - Insufficient Information). A copy of EPA's rating criteria is enclosed. In addition, we have enclosed our detailed comments for your consideration. If we can provide further explanation of our comments, I can be reached at 202/564-5400, or you can contact Elaine Suriano of my staff at 202/564-7162.

Sincerely,

Anne Norton Miller
Director
Office of Federal Activities

Enclosure

EPA's Detailed Comments – BLM DRAFT PEIS and PER – Vegetation Treatments Using Herbicides

Herbicide Management

EPA supports BLM efforts at implementing IPM approaches and offers the following information for your consideration as you complete the Final PEIS:

1. BLM is a partner with other federal agencies in developing and implementing Integrated Vegetation Management, and for consistency across agencies we suggest that the terms IPM or IVM be defined in this document. EPA recommends adding IPM and IVM to the glossary and use those references when referring to the decision framework for managing pests on BLM lands, including in the Executive Summary.

    a. Integrated Pest Management is, according to the National Road Map for Integrated Pest Management (May 17, 2004, http://www.ipmcenters.org/Docs/IPMRoadMap.pdf) "…a long-standing, science-based, decision-making process that identifies and reduces risks from pests and pest management related strategies. It coordinates the use of pest biology, environmental information, and available technology to prevent unacceptable levels of pest damage by the most economical means, while posing the least possible risk to people, property, resources, and the environment. IPM provides an effective strategy for managing pests in all arenas from developed agricultural, residential, and public areas to wild lands. IPM serves as an umbrella to provide an effective, all encompassing, low-risk approach to protect resources and people from pests."
    b. Integrated Vegetation Management is a subset of IPM used to manage vegetation.

2. Section 2-8, Vegetation Treatment Methods, refers to "integrated weed management", and states that "…no one management option is a stand alone option and that each has its own strengths and weaknesses." EPA suggests changing the statement to address "integrated vegetation management" rather than "integrated weed management" because the practices are not limited to weed control, but extend into wildfire fuels management, endangered species management, etc.

3. Chapter 2, page 2-8, fourth paragraph: The PDEIS states that "The following vegetation treatment priorities identified in the EIS Vegetation Treatment on BLM Lands in the Thirteen Western States (USDI BLM 1991a) *still apply today* (italics added) is not consistent with the Vegetation treatment methods section on the right side of the page. The USDI BLM 1991(a) reference identifies a specific preference for non-chemical controls without regard to environmental impact or suitability besides effectiveness. The Vegetation treatment methods section states

"all control methods should be available for use, allowing the BLM to select the one method, or the combination of methods, that optimizes vegetation control with respect to environmental concerns. With this in mind, we recommend removing the three words "still apply today" and add that the current focus of IVM is to use the option(s) that represent the "method, or combination of methods, that optimize vegetation control with respect to environmental concerns, effectiveness, and cost of control," similar to the language in 2-8, Vegetation Treatment Methods. One example is shown in a study supporting the IPM approach, looking at species diversity under various Rights of Way Management methods, commonly referred to as the Bramble and Burns studies (Bramble, WC., WR. Byrnes, RJ. Hutnik, and S.A. Liscinsky. 1991. Prediction of cover type on rights-of-way after maintenance treatments. J. Arboric. 17:38-43.)

4. BLM proposes a three-fold increase in the amount of land proposed for fuels management. To achieve this endpoint the Final PEIS might address the major variables taken into consideration and resources needed to implement this goal, e.g., weather, moisture content, winds, other fire/activities, smoke direction, and availability of manpower.

5. EPA suggests that BLM consider adding a representative label for each of the approved herbicide active ingredients and a reference to EPA's website for pesticide registration and ready access to complete fact sheets on all registered products. http://cfpub.epa.gov/oppref/rereg/status.cfm?show=rereg

6. We encourage BLM to develop a formal set of criteria for routine demonstration or small scale testing. For example, it might not be practical to commit to a full scale project controlling a large expanse of weeds using insects for biological control or some other biologically based approach, but if this were tried on a limited acreage, the results of that test would inform, and perhaps improve, future efforts. Small investments in demonstration projects can pay off over time and improve or expand the understanding of how to manage vegetation and achieve the desired condition.

7. While the risk assessments discussed in the Appendices A, B, and C include information on background, methodologies, analysis, use and predicted impacts and outcomes, they do not address incidents. Applicants are required to report such occurrences. For example, in Appendix C the risk assessment for sulfometuron-methyl, with respect to non-target plants, indicates that risk quotients for typical and rare, threatened or endangered (RTE) terrestrial plants were all well below the plant Level of Concern (LOC), indicating that wind erosion is not likely to pose a risk to non-target terrestrial plants (appendix C, page C-74). However, a few years ago, BLM's application of this herbicide to control cheat grass in a burned area of south central Idaho resulted in off-target movement by wind blown dust and farmers in the area reported a high degree of crop loss that they attributed to this herbicide. Investigations by the Idaho Department of Agriculture support this contention. It is clearly desirable to avoid

off-target effects and the EIS should include a discussion of risks from incidents for this and other herbicides.

Air Quality

The Agency's review identified several issues with the draft air quality emissions inventory and monitoring and we would welcome the opportunity to work with BLM on these issues.

1. Emissions Inventory

   a. The emission inventory (EI) chapter and EI methods appear to be consistent with typical EI practices. However, there have been some recent method refinements that have been made to visibility and PM models that would improve the methodology used by BLM. The Agency would welcome the opportunity to work with BLM on refining its emission inventory.

   b. Supporting information is needed to justify all of the emission rates in section 3.3. For example, in Table 2-1, for Fairbanks, the TSP emission rate for prescribed burns is 1.7 E+04 (~350 thousand tons). The same value is used for PM10 and a lesser value for PM2.5.

2. Air Quality Modeling:

   a. In Table 4.3, the CALPUFF-lite concentrations are mostly less than background and this is unusual. There are insufficient data to determine why CALPUFF generated these results. This should be addressed in the final PEIS.

   b. For the 6 locations modeled in the BLM report only one year of meteorological data was used. Although one year of data is adequate to facilitate a CALPUFF run, Appendix W recommends that 5 years of National Weather Service (NWS) or 3 years of mesoscale meteorological data should be used (see Appendix W language below). In addition, according to Table 4-1 of the report, the maximum potential impact period for each location is 6 days or less, with the exception of the biological treatment period (30 days). Due to the persistence of some synoptic features, a single year of NWS meteorological data does not adequately capture the variation of meteorological conditions at these locations. Because the requisite meteorological data is readily available, we suggest that BLM consider running the CALPUFF model with a more extensive data set for inclusion in the final EIS.

   c. In a related matter, modeling guidance in Appendix W states "For Long Range Transport situations (subsection 6.2.3) and for complex wind

situations (paragraph 7.2.8(a)), if only NWS or comparable standard meteorological observations are employed, five years of meteorological data (within and near the modeling domain) which is readily available should be used. Consecutive years from the most recent, readily available 5-year period are preferred. Less than five, but at least three, years of meteorological data (need not be consecutive) may be used if mesoscale meteorological fields are available, as discussed in paragraph 8.3(d). These mesoscale meteorological fields should be used in conjunction with available standard NWS or comparable meteorological observations within and near the modeling domain".

d. The final PEIS should clarify the following values in Table 2-1. For example, the surface roughness for Glasgow, Montana, is 0.04 m. This is a value that is only slightly higher than the value of surface roughness over very smooth surfaces such as water.

e. In a report of this nature, it is typical to address the individual and total uncertainties in the analysis. There are many uncertainties in the emission rates, the meteorology, model formulation and choice of background values and these should be addressed and evaluated.

f. The Agency recommends that BLM eliminate modeling for TSP because there is not a TSP NAAQS, and recommends that BLM focus on the PM10 and PM2.5 NAAQS.

g. The Agency recommends using area specific background information instead of the default background concentrations. Historically, most PM10 modeling analyses have been done with dispersion and/or receptor models. Since these models don't account for all sources, a background concentration needs to be used to account for other sources. The "PM10 SIP Development Guideline" (June 1987) recommends using nearby monitoring data to develop reasonable background values. The BLM report referred to documents from Arizona and Montana which contained default background concentrations. Our recommendation would be to not use default values and to develop values that were relevant to the specific area being modeled. By using default values, it appears that the values may be overly conservative. BLM used values of 30 ug/m3 and 8 ug/m3 as 24-hour and annual average background values for both PM10 and PM2.5. These values for PM10 may be overly conservative for many areas in the West. The values for PM2.5 are almost certainly higher than background concentrations in most areas of the West. There are annual average PM2.5 concentrations in some urban locations in the West that are as low as 4 ug/m3; rural areas would be even lower

h. EPA recently proposed lowering the 24-hour PM2.5 NAAQS to 35 $\mu g/m^3$. Based on the modeling results presented in Table 4-3, the modeled

emissions for the 24-hour PM2.5 NAAQS (63.54 $\mu g/m^3$) from a prescribed fire in Fairbanks, Alaska, would exceed the proposed new 24-hour PM2.5 NAAQS.