UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
DENVER, CO 80202-1129
Phone 800-227-8917
http://www.epa.gov/region08

Ref: 8EPR-EP

Joseph W. Russell, Chairperson
Montana Board of Environmental Review
P.O. Box 200901
Helena, MT 59620-0901

Subject: EPA's Action on Revisions to Montana's Surface Water Quality Standards.

Dear Mr. Russell:

The U.S. Environmental Protection Agency Region 8 (EPA) has completed its review of Montana's revised Surface Water Quality Standards and Procedures, Chapter 30, Sub-Chapter 6 and Department Circular DEQ-7 (DEQ-7). These revisions were adopted by the Montana Board of Environmental Review (the Board) on April 21, 2008, and submitted to EPA for review with a letter dated May 21, 2008, from Richard H. Opper, Director of Montana Department of Environmental Quality (DEQ). The submittal package included: (1) a copy of the notice of proposed amendments; (2) notice of final adoption of the amendments with the State's response to comments; (3) revised Department Circular DEQ-7 (February 2008 edition); and (4) a letter certifying that the amendments were adopted in accordance with State law. In addition, a Use Attainability Analysis (UAA) supporting the change in use classification of the Dry Fork for the Marias River was provided to EPA on March 28, 2008. Receipt of the submittal package on June 3, 2008, initiated EPA's review pursuant to Section 303(c) of the Clean Water Act (CWA or the Act) and the implementing federal water quality standards regulation (40 CFR Part 131). EPA has completed its review, and this letter is to notify you of our action.

The principal revisions to Chapter 30 (sub-chapters 5, 6, 7 and 10) and Circular DEQ-7 include:

- Adoption of new numerical surface water and ground water quality standards for eight pesticides and associated metabolites, as well as the addition of new metabolites to five existing standards, for the protection of human health (DEQ-7).
- A change in use classification (from B-2 to B-3) for a one-mile stretch of the Dry Fork of the Marias River and adjoining unnamed tributary (ARM 17.30. 610).
- Adoption of CWA 304(a) recommended criteria for nonylphenol and diazinon for the protection of aquatic life (DEQ-7).

The EPA commends the Board and DEQ for adopting significant improvements to the State's water quality standards. Especially commendable are the revisions to adopt new risk-based human health criteria for certain organic chemicals. For a number of the chemicals, the Board adopted criteria even though CWA 304(a) criteria recommendations have not yet been published by EPA. An additional outstanding effort was the submission of the Dry Fork Marias River UAA and adopted change in use designation that more accurately reflects the attainable use. Generally, the adopted revisions that are the subject of today's EPA action are well supported by the evidence, and we congratulate the Board and DEQ.

Agency Review

The Clean Water Act, Section 303(c)(2), requires States and authorized Indian Tribes to submit new or revised water quality standards to EPA for review. EPA is to review and approve, or disapprove, the submitted standards. Pursuant to CWA Section 303(c)(3), if EPA determines that any standard is not consistent with the applicable requirements of the Act, the Agency shall notify the State or authorized Tribe and specify the changes to meet the requirements. If such changes are not adopted by the State or authorized Tribe within ninety days after the date of notification, EPA is to propose and promulgate such standard pursuant to CWA Section 303(c)(4). The Region's goal has been, and will continue to be, to work closely with States and authorized Tribes throughout the standards revision process as a means to avoid the need for such disapproval and promulgation actions. Pursuant to EPA's Alaska Rule (40 CFR § 131.21(c)), new or revised state standards submitted to EPA after May 30, 2000, are not effective for CWA purposes until approved by EPA.

Today's Action

I am pleased to inform you that today, with the exception of certain revisions where EPA is taking no action, the Region is approving the revisions to Montana's Water Quality Standards, Chapter 30, Sub-chapter 6, and DEQ-7. EPA has concluded that the approved revisions are consistent with the requirements of the Clean Water Act and EPA's implementing regulation. The enclosure contains a more detailed rationale for today's action.

A number of the revised or new water quality standards jointly address surface water and ground water, as required by Montana's Agricultural Chemical Groundwater Protection Act. Although EPA supports the protection of ground water quality and has a number of programs invested in the protection of that resource, our CWA Section 303(c) approval and disapproval authority does not apply to ground water. Today's action, therefore, addresses only Montana's water quality standards provisions applicable to surface water.

Endangered Species Act Requirements

It is important to note that EPA's approval of Montana's Water Quality Standards is considered a federal action which may be subject to the Section 7(a)(2) consultation requirements of the Endangered Species Act (ESA). Section 7(a)(2) of the ESA states that "each federal agency … shall …insure that any action authorized, funded or carried out by

such agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined to be critical…"

EPA's approval of the water quality standards revisions, therefore, may be subject to the results of consultation with the U.S. Fish and Wildlife Service (Service) pursuant to Section 7(a)(2) of the ESA. Nevertheless, EPA also has a Clean Water Act obligation, as a separate matter, to complete its water quality standards action. Therefore, in approving the State's water quality standards today, EPA is completing its CWA Section 303(c) responsibilities. However, should the consultation process with the U.S. Fish and Wildlife Service identify information that supports a conclusion that one or more of these revisions is likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of critical habitat, EPA will revisit and amend its approval decision for those new or revised water quality standards.

Today's action includes a finding that EPA's approval of certain elements of the revised water quality standards will have no effect on listed or proposed, threatened or endangered species, or is otherwise not subject to ESA consultation. For these revisions, no consultation with the U.S. Fish and Wildlife Service is required. The discussion below, therefore, covers three categories of revisions: (1) revisions approved without condition; (2) revisions approved, subject to ESA consultation; and (3) revisions where EPA is taking no action.

Revisions Approved Without Condition

EPA has determined that its approval of 1) the new and revised human health-based water quality standards for pesticides and associated metabolites, and 2) the change in use classification of a one-mile stretch of the Dry Fork of the Marias River and adjoining tributary from B-2 to B-3 will have no effect on listed or proposed, threatened or endangered species, or is otherwise not subject to ESA consultation. For these revisions, no consultation with the Service is required. Accordingly these revisions are approved without condition. A more detailed rationale for our approval of these standards revisions can be found in the attached enclosure.

Revisions Approved, Subject to ESA Consultation

The adopted aquatic life criteria for nonylphenol and diazinon are approved for purposes of CWA Section 303(c), subject to the results of consultation under Section 7(a)(2) of the ESA. The Region is deferring to the national consultation[1] that has been initiated by EPA Headquarters and the Service on EPA's published water quality criteria recommendations for the protection of aquatic organisms. Should the consultation process with the U.S. Fish and Wildlife Service identify information that supports a conclusion that one or more of the revisions in this category are likely to jeopardize the continued existence of any listed endangered or threatened species, or result in the destruction or adverse

[1] See the *Memorandum of Agreement Between the Environmental Protection Agency, Fish and Wildlife Service and National Marine Fisheries Service Regarding Enhanced Coordination Under the Clean Water Act and Endangered Species Act* (66 Federal Register 11202, February 22, 2001).

modification of designated critical habitat of such species, the Region will revisit and revise, as necessary, its approval decision for the identified water quality standard. Revisions in this category are further discussed in the enclosure.

Revisions Where EPA Is Taking No Action

Other revisions submitted to EPA in the May 21, 2008, letter include ground water revisions and a number of clarifying provisions, including updated references to EPA publications and clerical revisions. EPA is taking no action on these revisions. As mentioned above, EPA's CWA § 303(c) approval authority is limited to water quality standards for surface water, and EPA is taking no action on the revisions as they pertain to ground water. A more detailed rationale on our decision to take no action on the clarifying provisions can be found in the attached enclosure.

Indian Country

The water quality standards approvals in today's letter apply only to waterbodies in the State of Montana, and do not apply to waters that are within Indian country, as defined in 18 U.S.C. Section 1151. "Indian country" includes any land held in trust by the United States for an Indian tribe and any other areas defined as "Indian country" within the meaning of 18 U.S.C. 1151. Today's letter is not intended as an action to approve or disapprove water quality standards applying to waters within Indian country. EPA, or authorized Indian tribes, as appropriate, will retain responsibilities for water quality standards for waters within Indian country.

Conclusion

EPA Region 8 commends the Board and DEQ for the significant improvements to Montana's water quality standards as set forth in Montana's revised Surface Water Quality Standards and Procedures, Chapter 30, Sub-Chapter 6 and DEQ-7. The Region looks forward to working with the Department to make additional improvements to the State's water quality standards. If you have questions concerning this letter, the most knowledgeable person on my staff is Lareina Wall at 303-312-6610.

Sincerely,

Carol L. Campbell
Assistant Regional Administrator
Office of Ecosystems Protection and Remediation

Enclosure
cc: Richard Opper, Director of Montana Department of Environmental Quality

RATIONALE FOR EPA'S ACTION ON MONTANA'S REVISED SURFACE WATER QUALITY STANDARDS AND PROCEDURES

New Water Quality Standards

The revisions addressed in this EPA action were adopted by the Montana Board of Environmental Review on April 21, 2008 and submitted to EPA for review with a letter dated May 21, 2008. The revisions included, among other things, a significant number of new human health criteria, as required by Montana Agricultural Chemical Groundwater Protection Act, and several new CWA 304(a) criteria. A summary of the new and revised water quality standards that EPA is acting on is presented below.

- Adoption of new numerical surface water quality standards for eight pesticides and associated metabolites, as well as the addition of new metabolites to five existing standards for the protection of human health (DEQ-7).
- A change in use classification (from B-2 to B-3) of a one-mile stretch of the Dry Fork of the Marias River and associated unnamed tributary (ARM 17.30. 610).
- Adoption of CWA 304(a) recommended criteria for nonylphenol and diazinon for the protection of aquatic life (DEQ-7).

Basis for EPA's Action

Revision:

Adoption of eight new numerical, human health-based water quality standards for pesticides and their congeners, as well as the addition of new metabolites to five existing standards, for the protection of ground water (and surface water) as required by the Montana Agricultural Chemical Groundwater Protection Act.

Basis for Approval:

Montana's Agricultural Chemical Groundwater Protection Act (Montana's Act) requires that the Board derive and adopt numerical surface water and ground water standards for pesticides that are known or predicted to occur in the State's ground water. As a result, the DEQ-7 is regularly updated with new human health-based standards for pesticides. In adopting the new and revised standards for pesticides, the Board elected to apply those standards to both ground water and surface water. EPA supports this decision. In the Agency's view, the Board has taken a prudent public health protection position in applying the new and revised standards to both ground water and surface water. Because EPA's CWA § 303(c) approval authority is limited to water quality standards for surface water, today's EPA action is limited to the amendments in DEQ-7 applicable to surface water.

Montana's Act directs the Board to set the standards to Maximum Contaminant Levels (MCLs) established under the provisions of the Safe Drinking Water Act, where a

MCL has been promulgated. For pesticides that do not have a MCL, the Board is directed to use EPA's drinking water lifetime health advisory (LHA) value. If there is no MCL or LHA, the standard is to be based on a general health advisory (HA) formula that takes into account the toxicity information used to establish a chronic Reference Dose (RfD), the standard exposure scenario for drinking water (consumption of 2 liters of water per day by a 70 kg person), and the Relative Source Contribution (RSC). This latter term is applied to ensure that the total exposure to the chemical from all environmental media (drinking water, food, and air) is below the RfD, or safe exposure level. In the absence of reliable information from food and air, the Drinking Water Program uses a value of 0.2 for the RSC. The general equation for calculating a health advisory is:

HA = RfD (mg/kg-day) x 70 kg x 1 day/2 Liters x RSC

For each chemical, the basis for the adopted revisions is summarized below. Included, as appropriate, are the RfD, RSC, and source data reference used to calculate the adopted criteria**.**

Acetochlor Ethane Sulfonic Acid (Acetochlor ESA) and Acetochlor Oxynallic Acid (Acetochlor OA): There is no MCL or LHA for this chemical. The EPA Pesticide Program RfD is 0.02 mg/kg-day. Based on the standard formula, the advisory is:

HA = 0.02 (mg/kg-day) x 70 kg x 1 day/2 Liters x 0.2 = 0.140 mg/L

Reference: U.S. Environmental Protection Agency. 1994. Pesticide Tolerances for Acetochlor. Federal Register. Vol. 59, No. 56. Rules and Regulations. Wednesday, March 23, 1994.

Alachlor metabolites (Alachlor ESA and Alachlor OA): The Drinking Water MCL and existing Montana standard for alachlor is 0.002 mg/L. These metabolites have the same toxicity as alachlor; therefore, they were added to the existing standard in DEQ-7.

Aminomethylphosphonic Acid (AMPA, glyphosate metabolite): The MCL for glyphosate is 0.7 mg/L. AMPA is no longer included as a metabolite to be considered under the tolerance for glyphosate in food in 40 CRF 180.364. Therefore, the MCL or the RfD for glyphosate should not be used as the advisory for AMPA. Montana was not able to locate an EPA Pesticide Program RfD for AMPA; therefore other scientifically valid information was obtained to determine an advisory. Williams et al. (2000) reviewed the toxicity information for glyphosate and AMPA and based on this information AMPA appears to be 2-4 fold less toxic than glyphosate. Given this differential toxicity, an HA of 2.0 mg/L (3 x 0.7) was adopted.

Reference: Williams et al. (2000). Safety evaluation and risk assessment of the herbicide Roundup and its active ingredient, glyphosate, for humans. Reg Toxicol and Pharmacol 31:117-165.

Atrazine metabolites (deethyl, deisopropyl, and deethyl deisopropyl): The Drinking Water MCL and existing Montana standard for atrazine is 0.003 mg/L. The toxicity of atrazine metabolites depends on whether the chlorine atom is still attached to the triazine

ring. Each of these metabolites contains the intact triazine ring and the chlorine atom. Therefore, these metabolites would be expected to have the same toxicity as atrazine and were added to the existing standard.
Reference: Decision Documents for Atrazine
(http://www.epa.gov/opp00001/reregistration/atrazine/)

Azoxystrobin: There is no MCL or LHA for this chemical. The EPA Pesticide Program RfD is 0.18 mg/kg-day. Based on the standard formula, the advisory is:

HA = 0.18 (mg/kg-day) x 70 kg x 1 day/2 Liters x 0.2 = 1 mg/L

Reference: Azoxystrobin; Pesticide Tolerance (64 FR 13106-13112)

Hydroxy Atrazine: There is no MCL or LHA for this chemical. The EPA Pesticide Program RfD for hydroxy atrazine is 0.01 mg/kg-day. Based on the standard formula, the advisory is:

HA = 0.01 (mg/kg-day) x 70 kg x 1 day/2 Liters x 0.2 = 0.07 mg/L

Reference: Decision Documents for Atrazine
http://www.epa.gov/opp00001/reregistration/atrazine/)

Imazamethabenz methyl acid (metabolite of Imazamethabenz-methyl ester): This chemical is the simple hydrolysis product of imazametabenz-methyl ester and will have the same toxicity as the parent compound. Therefore, this metabolite was added to the existing Montana value for imazametabenz-methyl in DEQ-7.
Reference: Imazamethabenz-methyl: HED Chapter of the Tolerance

Imazamox: There is no MCL or LHA for this chemical. The EPA Pesticide Program RfD is 3 mg/kg-day. Based on the standard formula, the advisory is:

HA = 3 (mg/kg-day) x 70 kg x 1 day/2 Liters x 0.2 = 20 mg/L

Reference: Imazamox; Pesticide Tolerance (62 FR 29669-29673)

Imidacloprid: There is no MCL or LHA for this chemical. The EPA Pesticide Program RfD is 0.057 mg/kg-day. Based on the standard formula, the advisory is:

HA = 0.057 (mg/kg-day) x 70 kg x 1 day/2 Liters x 0.2 = 0.4 mg/L

Reference: Imidacloprid; Pesticide Tolerance (63 FR 49837-49852)

Metolachlor Ethane Sulfonic Acid (Metolachlor ESA) Metolachlor Oxynallic Acid (Metolachlor OA): These derivatives of metolachlor will have the same toxicity as metolachlor. The existing Montana value for metolachlor in DEQ-7 should be used.

Pinoxaden (NOA 407855) and its metabolites NOA 407854 and NOA 447204: There is no MCL or LHA for this chemical. The EPA Pesticide Program RfD for pinoxaden and its metabolites NOA 407854 and NOA 447204 is 0.3 mg/kg-day. Based on the standard formula, the advisory is:

HA = 0.3 (mg/kg-day) x 70 kg x 1 day/2 Liters x 0.2 = 2 mg/L

References: Pinoxaden; Pesticide Tolerance (70 FR 43313-43322). Pinoxaden: Human Health Risk Assessment for New Active Ingredient (July 13, 2005)

Triallate: There is no MCL or LHA for this chemical. The EPA Pesticide Program RfD for triallate is 0.025 mg/kg-day. The EPA Pesticide Program has classified triallate as a Class C carcinogen with an oral slope factor of 7.17×10^{-2} $(mg/kg\text{-}day)^{-1}$. For Class C carcinogens, Montana uses a target risk level of 10^{-5} and the standard exposure assumptions of a 70 kg body weight and consumption of 2 L of water per day. Using the oral slope factor of 7.17×10^{-2} $(mg/kg\text{-}day)^{-1}$, the advisory is:

$HA = 10^{-5} \times 1$ day/2 L x 70 kg x $1/[7.17 \times 10^{-2}$ $(mg/kg\text{-}day)^{-1}] = 0.005$ mg/L

Reference: Triallate; Pesticide Tolerance (65 FR 58375-58385)

Triticonazole: There is no MCL or LHA for this chemical. The EPA Pesticide Program RfD for triticonazole is 0.17 mg/kg-day. Based on the standard formula, the advisory is:

HA = 0.17 (mg/kg-day) x 70 kg x 1 day/2 Liters x 0.2 = 1 mg/L

Reference: Triticonazole; Pesticide Tolerance (67 FR 60950-60960)

These revisions to WQB-7 have added a significant level of public health protection to Montana's water quality standards, and EPA commends the Board and the Department for making these changes. Further, these health-based standards apply EPA's drinking water recommendations, and where values were calculated, the approach used is consistent with EPA's recommendation for appropriate application of exposure assumptions and toxicity information. EPA, therefore, has concluded that the new and revised human health-based standards for pesticides in the February 2008 version of WQB-7 are scientifically defensible and are consistent with the requirements of the Clean Water Act and EPA's implementing regulation at 40 CFR Section 131.11. Accordingly these revisions are approved.

Revision

A change in use classification from B-2 to B-3 of a one-mile stretch of the Dry Fork of the Maris River and adjoining unnamed tributary.

Basis for Approval

The DEQ submitted a Use Attainability Analysis (UAA) to the Region to support the use change per the requirements in EPA's implementing regulation (40 CFR 131.6 and 131.10((j)). Following the review of the UAA, EPA concludes that the multiple lines of evidence presented in the UAA support the change in use classification from B-2 to B-3 for the section of the Dry Fork Marias River between Highway 91 and Interstate 15, including the adjoining tributary. Streams classified as B-3 support the same beneficial uses as those classified B-2, but support "growth and propagation of non-salmonid fish and associated aquatic life" (ARM 17.30.625) rather than "growth and marginal propagation of salmonid fish and associated aquatic life." Data presented in the UAA show that (1) instream temperatures are not currently able to support the marginal propagation and growth of salmonid species, (2) habitat parameters typical of streams that support salmonid species are not present, and (3) the non-salmonid fish communities present in these segments are similar to communities in adjacent reaches.

Accordingly, the Agency finds the conditions to be adequately documented in the UAA, and the State's rationale for the revision to be scientifically defensible, and EPA approves the change in use classification without condition.

Revisions to Statewide Aquatic Life Criteria:

Adoption of new acute and chronic aquatic life criteria for diazinon and nonylphenol.

Basis for Approval, Subject to Consultation:

New acute and chronic aquatic life standards were adopted based on the recommendations in the EPA diazinon and nonylphenol criteria documents, both published in December of 2005. Based on the supporting evidence included in the criteria documents, and because the adopted criteria are based on CWA 304(a) aquatic life criteria recommendations published by EPA, the Region finds these new and revised criteria to be protective of designated uses, and thereby consistent with federal requirements (40 CFR 131.11). The Region approves all revisions in this category, subject to ESA consultation. The Region defers to the national consultation for each of the revisions in this category.

Revisions Where EPA is Taking No Action

Other revisions submitted to EPA in the May 21, 2008 letter include a number of clarifying provisions, including updated references to EPA publications and clerical revisions to Chapter 30 (Sub-Chapters 5, 6, 7, and 10), Chapter 36 (Sub-Chapter 3), Chapter 55 (Sub-Chapter 1), and Chapter 56 (Sub-Chapters 5 and 6). These revisions include:

- An updated reference to the State's methods for calculating the toxic equivalency factors (TEF) for dioxin and congeners. The Board adopted the latest publication of Van den Berg et al. (2006). Although Van den Berg et al. (2006) includes a number of revised TEFs, the TEF used to determine the standards for dioxin and congeners did not change and therefore the revision adopted by the Board does not constitute a water quality standards change. Accordingly, EPA is taking no action on this revision. We also note that the current edition of DEQ-7 references Van den Berg et al. (1998), not Van den Berg et al. (2006). This has been brought to the attention of the DEQ and it is EPA's understanding that the DEQ intends to correct this typographical error at the next regulatory opportunity.
- Amendments that incorporate, by reference, EPA's revised methods for sampling and analyzing water. In general, EPA does not consider updated references to analytical methods to be revisions to water quality standards, because they do not alter the required level of protection. Accordingly, EPA is taking no action on these revisions.

- Removal of the footnote that identified the delayed effect of Montana's adoption of the human-health arsenic standard for surface and ground water. The delayed effective date identified in the footnote (January 23, 2006) has long since passed, and so the footnote is obsolete. This revision is therefore strictly clerical in nature, and does not in any way alter the water quality requirement for arsenic. Accordingly, EPA is taking no action on this revision.