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BEFORE THE BOARD OF ENVIRONMENTAL REVIEW
OF THE STATE OF MONTANA

In the matter of the amendment of ARM)
[17.30.201](#), [17.30.507](#), [17.30.516](#),)
[17.30.602](#), [17.30.619](#), [17.30.622](#),)
[17.30.623](#), [17.30.624](#), [17.30.625](#),)
[17.30.626](#), [17.30.627](#), [17.30.628](#),)
[17.30.629](#), [17.30.635](#), [17.30.702](#), and)
[17.30.715](#) pertaining to permit)
 application, degradation authorization,)
 and annual permit fees, specific)
 restrictions for surface water mixing)
 zones, standard mixing zones for)
 surface water, definitions, incorporations)
 by reference, A-1 classification)
 standards, B-1 classification standards,)
 B-2 classification standards, B-3)
 classification standards, C-1)
 classification standards, C-2)
 classification standards, I classification)
 standards, C-3 classification standards,)
 general treatment standards, definitions,)
 and criteria for determining)
 nonsignificant changes in water quality)

NOTICE OF PUBLIC HEARING ON
PROPOSED AMENDMENT

(WATER QUALITY)

TO: All Concerned Persons

1. On March 24, 2014, at 2:00 p.m., the Board of Environmental Review will hold a public hearing in Room 111, Metcalf Building, 1520 East Sixth Avenue, Helena, Montana, to consider the proposed amendment of the above-stated rules. At 9:00 a.m., immediately preceding the hearing for MAR Notice No. 17-355 (which is scheduled for 10:00 a.m.), at the same location, the Department of Environmental Quality will hold an informal question and answer session regarding this rulemaking and MAR Notice No. 17-355, which is the Department's proposed adoption of numeric nutrient standards variances rules.

2. The board will make reasonable accommodations for persons with disabilities who wish to participate in this public hearing or need an alternative accessible format of this notice. If you require an accommodation, contact Elois Johnson, Paralegal, no later than 5:00 p.m., March 10, 2014, to advise us of the nature of the accommodation that you need. Please contact Elois

Johnson at Department of Environmental Quality, P.O. Box 200901, Helena, Montana 59620-0901; phone (406) 444-2630; fax (406) 444-4386; or e-mail ejohnson@mt.gov.

3. The board is proposing to adopt new Department Circular DEQ-12A (DEQ-12A), which contains base numeric nutrient standards for total nitrogen and total phosphorus, and to incorporate new DEQ-12A into the surface water quality classifications and the nondegradation rules. The board is also proposing rule amendments pertaining to definitions and a low flow for base numeric nutrient standards appropriate for the design of disposal systems.

The department has documented that various forms of nitrogen and phosphorus rank as the 4th, 8th, 10th, and 12th most common types of pollution in Montana's flowing waters. In fact, excess nitrogen and phosphorus levels account for 17 percent of all stream miles impaired by all forms of water pollution in Montana. The intent of the proposed nutrient standards is to control the undesirable effects of eutrophication. Eutrophication is the enrichment of a waterbody (e.g., a stream or lake) by nitrogen and phosphorus, which leads to increased plant and algae growth and decay and all the consequential changes to the water quality that occur as a result. At present Montana does not have numeric water quality standards for controlling eutrophication, except on the Clark Fork River. Therefore, in most cases, permit limits, including waste load allocations determined in Total Maximum Daily Loads (i.e., TMDLs) are based upon the narrative water quality standard. The narrative standard prohibits substances in water that "create conditions which produce undesirable aquatic life" (ARM [17.30.637\(1\)\(e\)](#)). Translating the narrative standard into enforceable permit limits on a case-by-case basis is time-consuming, dependent upon judgment which invites controversy, and may result in inconsistent or differing permit limits due to various interpretations among permit or TMDL writers. Numeric nutrient criteria will resolve this.

The effects of excess nitrogen and phosphorus in streams and rivers go well beyond the undesirable aquatic life referred to in the narrative standard. Excess nitrogen and phosphorus affect other water quality parameters for which Montana already has standards (dissolved oxygen, pH). The state of the science is such that linkages can clearly be made between nitrogen and phosphorus concentrations and these other, already-adopted standards. Thus, the numeric nutrient criteria will also ensure protection and attainment of Montana's dissolved oxygen and pH standards which are, in and of themselves, critical to the protection of fish and aquatic life.

State law requires that waterbodies support multiple beneficial uses (e.g., agriculture, fish and associated aquatic life, recreation). In turn, a water quality criterion for a given pollutant is established at a concentration that protects the most sensitive of the beneficial uses from the impacts caused by the pollutant. Numeric criteria for nitrogen and phosphorus concentrations are contained in DEQ-12A and vary geographically across the state. For streams and small rivers of western Montana, the numeric nutrient criteria have generally been established at concentrations that will prevent nuisance levels of bottom-attached algae and ensure that dissolved oxygen levels are maintained at standards already established by the state. The nuisance threshold for attached algae was determined via scientific polling of Montana citizens and river and stream users, and is, therefore, associated with the recreation use. Dissolved oxygen standards, in contrast, are associated with the fish and aquatic life beneficial use. In western Montana, the fish and aquatic life use and the recreation use have broadly similar sensitivities to nitrogen and phosphorus pollution.

In eastern Montana, the criteria are established at levels that will protect the indigenous fish populations and will generally ensure that dissolved oxygen levels do not decline below state standards. The attached algae threshold was not used to derive nutrient criteria for eastern Montana streams and small rivers because (a) the department's scientific poll did not address the types of streams typical of eastern Montana, and (b) attached algae levels higher than the nuisance threshold have been periodically observed in reference streams of the region. Nitrogen and phosphorus criteria concentrations are substantially higher in eastern Montana and this is

due, in part, to the higher natural turbidity of those streams. Nutrient criteria for large rivers are mostly still under development. However, they have been completed for a large river segment (the lower Yellowstone), which is included in DEQ-12A. In the lower Yellowstone River, the nutrient criteria are set at concentrations that will prevent nuisance bottom-attached algae and extreme variations in pH (the latter of which impacts fish). The scientific bases for the criteria are laid out in more detail in the following documents: Scientific and Technical Basis of the Numeric Nutrient Criteria for Montana's Wadeable Streams and Rivers (2008) and Scientific and Technical Basis of the Numeric Nutrient Criteria for Montana's Wadeable Streams and Rivers: Update 1 (2013). These documents may be viewed on the department's web site at <http://www.deq.mt.gov/wqinfo/standards/NumericNutrientCriteria.mcp>. They may also be obtained from the department at the address or phone number listed in paragraph 5 of this notice.

The nutrient criteria concentrations being proposed for adoption as standards are generally low, particularly in the western region of Montana. In many cases, the concentrations are below the limits of current wastewater treatment technology, particularly for nitrogen.

Therefore, when little or no stream dilution is available, dischargers will find it difficult or impossible to meet the standards. Senate Bill 95 (2009 Legislature) and Senate Bill 367 (2011 Legislature), now codified at [75-5-313](#), MCA, addressed the high cost and technological difficulties associated with meeting the nutrient standards in the short term. Section [75-5-313](#), MCA, allows dischargers to be granted variances from numeric nutrient standards, once the criteria have been adopted as standards, in those cases where meeting the standards today would be an unreasonable economic burden or technologically infeasible. Variances from the standards may be granted for up to twenty years. Thus, [75-5-313](#), MCA, allows for the nutrient standards to be met in a staged manner, over time, as alternative effluent management methods are considered, nutrient removal technologies become more cost-effective and efficient, and nonpoint sources of nutrients are addressed. Rules implementing [75-5-313](#), MCA, are within the rulemaking authority of the Department of Environmental Quality, not the Board of Environmental Review. Concurrent with the board's rulemaking process initiated by this notice, the department has proposed rulemaking to implement the variance process. See MAR Notice No. 17-355. The department will hold a separate hearing on those rules. Comments regarding the variance process must be submitted to the department as indicated in MAR Notice No. 17-355.

4. The rules proposed to be amended provide as follows, stricken matter interlined, new matter underlined:

17.30.201 PERMIT APPLICATION, DEGRADATION AUTHORIZATION, AND ANNUAL PERMIT FEES (1) through (5) remain the same.

(6) The fee schedules for new or renewal applications for, or modifications of, a Montana pollutant discharge elimination system permit under ARM Title 17, chapter 30, subchapter 11 or 13, a Montana ground water pollution control system permit under ARM Title 17, chapter 30, subchapter 10, or any other authorization under [75-5-201](#), [75-5-301](#), or [75-5-401](#), MCA, or rules promulgated under these authorities, are set forth below as Schedules I.A, I.B, I.C, and I.D. Fees must be paid in full at the time of submission of the application. For new applications under Schedule I.A, the annual fee from Schedule III.A for the first year must also be paid at the time of application. For new applications under Schedule I.B and I.C, the annual fee is included in the new permit amount and covers the annual fee for the calendar year in which the permit coverage becomes effective.

(a) through (e) remain the same.

(f) Applications for new permits or permit renewals for sources that constitute a new or increased source, as defined in ARM [17.30.702](#) ~~(18)~~ (17), must pay a significance determination fee for each outfall in addition to the application fee.

(g) through (11)(b) remain the same.

AUTH: [75-5-516](#), MCA

IMP: [75-5-516](#), MCA

REASON: The amendment to ARM [17.30.201](#)(6)(f) modifies a cross-reference to ARM [17.30.702](#) because the numbering in that rule is proposed to be changed in this notice.

[17.30.507](#) SPECIFIC RESTRICTIONS FOR SURFACE WATER MIXING

ZONES (1) Mixing zones for surface waters are ~~to comply with~~ subject to the following water quality standards:

(a) narrative water quality standards, standards for harmful substances, numeric acute and chronic standards for aquatic life; ~~standards in Department Circular DEQ-12A;~~ and standards based on human health must not be exceeded beyond the boundaries of the surface water mixing zone;

(b) through (3) remain the same.

AUTH: [75-5-301](#), MCA

IMP: [75-5-301](#), [75-5-313](#), MCA

REASON: The amendment to this rule is necessary to ensure that mixing zones are available for nutrient standards and to ensure that the nutrient standards must be met beyond the mixing zone. A mixing zone is a nationally recognized and useful tool to implement standards in permits, and there is no reason that this tool should not be available for nutrient standards.

[17.30.516](#) STANDARD MIXING ZONES FOR SURFACE WATER (1) and (2) remain the same.

(3) Facilities that meet the terms and conditions in (a) through ~~(d)~~ (e) qualify for a standard mixing zone as follows:

(a) through (d) remain the same.

(e) Facilities that discharge the parameters found in Department Circular DEQ-12A to surface water. Discharge limitations must be based on dilution with the entire seasonal 14-day, five-year (seasonal 14Q5) low flow of the receiving water without the discharge.

(4) The length of a standard mixing zone for flowing surface water, other than a nearly instantaneous mixing zone, must not extend downstream more than the one-half mixing width distance or extend downstream more than ~~40 ten~~ times the stream width, whichever is more restrictive. For purposes of making this determination, the stream width as well as the discharge limitations are considered at the 7Q10 or seasonal 14Q5 low flow. The seasonal 14Q5 low flow may be used only in conjunction with base numeric nutrient standards in Department Circular DEQ-12A. The recommended calculation to be used to determine the one-half mixing width distance downstream from a stream bank discharge is described below.

(a) $A_{1/2} = [0.4(W/2)^2V]/L$, where:

(i) remains the same.

(ii) W = width in feet at the 7Q10 or seasonal 14Q5;

(iii) V = velocity of the stream at the 7Q10 or seasonal 14Q5 downstream of the discharge (in ft/second);

(iv) L = lateral dispersion coefficient for the 7Q10 or seasonal 14Q5 downstream of the discharge (in ft²/second), where:

(b) L = CDU, where:

(i) through (i)(E) remain the same.

(ii) D = average water depth at the 7Q10 or seasonal 14Q5 downstream of the discharge (in feet);

(iii) remains the same.

(c) $U = (32.2DS)^{1/2}$, where:

(i) remains the same.

(ii) $D =$ average water depth at the 7Q10 or seasonal 14Q5 downstream of the discharge (in feet); and

(iii) through (6) remain the same.

AUTH: [75-5-301](#), MCA

IMP: [75-5-301](#), MCA

REASON: The manner in which nutrients affect and impact beneficial uses in streams and rivers is different from toxic and harmful compounds found in Department Circular DEQ-7 (DEQ-7), and it is necessary to develop an appropriate low flow design flow (the seasonal 14Q5) specifically for permitting nutrient discharges. Derivation of the seasonal 14Q5 is discussed in the proposed changes to ARM [17.30.635](#). Here, the rule amendments incorporate the seasonal 14Q5 flow into the calculations used to determine the length of a standard mixing zone. ARM [17.30.516](#) is proposed to be amended to provide that the full volume of a seasonal 14Q5, as opposed to some fraction of it, is to be used for dilution calculations for nutrients in DEQ-12A. This allowance reflects the non-toxic nature of nutrients at the concentrations found in DEQ-12A.

[17.30.602](#) DEFINITIONS In this subchapter the following terms have the meanings indicated below and are supplemental to the definitions given in [75-5-103](#), MCA:

(1) through (32) remain the same.

(33) "Total nitrogen" means the ~~total nitrogen concentration (as N) of unfiltered water. This may be determined by direct methods, or derived as the sum of the soluble (as N) and non-soluble (as N) nitrogen fractions. The filter used to separate the soluble and non-soluble fractions must be 0.45 µm~~ sum of all nitrate, nitrite, ammonia, and organic nitrogen, as N, in an unfiltered water sample. Total nitrogen in a sample may also be determined by the persulfate digestion or as the sum of total kjeldahl nitrogen plus nitrate plus nitrite.

(34) "Total phosphorus" means the ~~total phosphorus concentration (as P) of unfiltered water~~ sum of orthophosphates, polyphosphates, and organically bound phosphates, as P, in an unfiltered water sample. Total phosphorus may also be determined directly by persulfate digestion.

(35) through (38) remain the same.

(39) "DEQ-7" means the department circular that is adopted and incorporated by reference in ARM [17.30.619](#) and is entitled "Montana Numeric Water Quality Standards." This circular establishes water quality standards for toxic, carcinogenic, ~~bioconcentration~~ bioconcentrating, nutrient, radioactive, and harmful parameters, and also establishes human health-based water quality standards for the following specific nutrients with toxic effects:

(a) nitrate;

(b) nitrate + nitrite; and

(c) nitrite.

(40) "DEQ-12A" means the department circular that is adopted and incorporated by reference in ARM [17.30.619](#) and is entitled "Montana Base Numeric Nutrient Standards." This circular contains numeric water quality standards for total nitrogen and total phosphorus in surface waters.

(41) "DEQ-12B" means the department circular that is adopted and that is entitled "Montana Base Numeric Nutrient Standards Variances." This circular describes procedures for receiving a variance from the standards and will document recipients of individual variances.

AUTH: [75-5-201](#), [75-5-301](#), MCA

IMP: [75-5-301](#), [75-5-313](#), MCA

REASON: The proposed amendments to ARM [17.30.602](#) provide modification of existing definitions and a new definition in order to implement the nutrient standards. The modified definition of "total nitrogen," at (33), provides a more technically accurate description compared to the old definition. The same is true for "total phosphorus," at (34). In the definition for "DEQ-7," at (39), "nutrient" has been removed because base numeric nutrient standards will now be housed in a new department circular, DEQ-12A. Some nitrogen compounds (nitrate, nitrate + nitrite, and nitrite) have toxic effects at relatively high concentrations and standards for them already exist and are intended to protect human health. By definition at [75-5-103](#)(2)(b), MCA, these compounds are not considered part of the base numeric nutrients standards. Therefore, they will remain in DEQ-7 and are now listed under the DEQ-7 definition for better clarity. The new definition at (40), "DEQ-12A," defines the new department circular where base numeric nutrient standards are found. In addition to the criteria concentrations, the circular includes instructions on how to develop permits for base numeric nutrient standards. In MAR Notice No. 17-355, the department is proposing to adopt new Department Circular DEQ-12B. It contains the procedures for receiving a variance from the standards and will document recipients of individual variances. The board anticipates that DEQ-12B will be adopted before or at the same time DEQ-12A is adopted.

17.30.619 INCORPORATIONS BY REFERENCE (1) The board adopts and incorporates by reference the following state and federal requirements and procedures as part of Montana's surface water quality standards:

(a) Department Circular DEQ-7, entitled "Montana Numeric Water Quality Standards" (October 2012 edition), which establishes water quality standards for toxic, carcinogenic, bioconcentrating, ~~nutrient~~, radioactive, and harmful parameters and also establishes human health-based water quality standards for the following specific nutrients with toxic effects:

(i) nitrate;

(ii) nitrate + nitrite; and

(iii) nitrite;

(b) remains the same.

(c) 40 CFR Part 136 (July 1, 2011), which establishes guidelines and procedures for the analysis of pollutants; ~~and~~

(d) 40 CFR 131.10(g), (h) and (j) (2000), which establishes criteria and guidelines for conducting a use attainability analysis; ~~and~~

(e) Department Circular DEQ-12A, entitled "Montana Base Numeric Nutrient Standards" (December 2013 edition), which establishes numeric water quality standards for total nitrogen and total phosphorus in surface waters.

(2) If a court of competent jurisdiction declares [75-5-313](#), MCA, or any portion of that statute invalid, or if the United States Environmental Protection Agency disapproves [75-5-313](#), MCA, or any portion of that statute, under 30 CFR 131.21, or if rules adopted pursuant to [75-5-313](#)(6) or (7), MCA, expire and general variances are not available, then (1)(e) and all references to DEQ-12A, base numeric nutrient standards and nutrient standards variances in ARM [17.30.201](#), [17.30.507](#), [17.30.516](#), [17.30.602](#), [17.30.622](#) through [17.30.629](#), [17.30.635](#), [17.30.702](#), and [17.30.715](#) are void, and the narrative water quality standards contained in ARM [17.30.637](#) are the standards for total nitrogen and total phosphorus in surface water, except for the Clark Fork River, for which the standards are the numeric standards in ARM [17.30.631](#).

(2) remains the same, but is renumbered (3).

AUTH: [75-5-201](#), [75-5-301](#), MCA

IMP: [75-5-301](#), [75-5-313](#), MCA

REASON: The amendments to the definitions for DEQ-7, in (1)(a), correspond to those already discussed above for definitions (ARM [17.30.602](#)). Proposed new (2) is a non-severability clause. Essentially, if the statute that defines the nutrient standards variance process is rendered invalid, or if general variance rules expire and general variances are not available, then the base numeric nutrient standards would no longer be contained in the rules. The Legislature intended that variances be available to permittees once base numeric nutrient standards were adopted and both pieces (base numeric standards and variances) must remain together as a package.

17.30.622 A-1 CLASSIFICATION STANDARDS (1) and (2) remain the same.

(3) No person may violate the following specific water quality standards for waters classified A-1:

(a) through (g) remain the same.

(h) Concentrations of carcinogenic, bioconcentrating, toxic, radioactive, nutrient or harmful parameters may not exceed the applicable standards set forth in ~~Department Circular DEQ-7 and, unless a nutrient standards variance has been granted, Department Circular DEQ-12A.~~

(i) Dischargers issued permits under ARM Title 17, chapter 30, subchapter 13, shall conform with ARM Title 17, chapter 30, subchapter 7, the nondegradation rules, and may not cause receiving water concentrations to exceed the applicable standards contained in ~~Department Circular DEQ-7 and, unless a nutrient standards variance has been granted, Department Circular DEQ-12A~~ when stream flows equal or exceed the design flows specified in ARM [17.30.635](#)(4) (2).

(j) and (k) remain the same.

AUTH: [75-5-201](#), [75-5-301](#), MCA

IMP: [75-5-301](#), [75-5-313](#), MCA

17.30.623 B-1 CLASSIFICATION STANDARDS (1) remains the same.

(2) No person may violate the following specific water quality standards for waters classified B-1:

(a) through (g) remain the same.

(h) Concentrations of carcinogenic, bioconcentrating, toxic, radioactive, nutrient, or harmful parameters may not exceed the applicable standards set forth in ~~Department Circular DEQ-7 and, unless a nutrient standards variance has been granted, Department Circular DEQ-12A.~~

(i) Dischargers issued permits under ARM Title 17, chapter 30, subchapter 13, shall conform with ARM Title 17, chapter 30, subchapter 7, the nondegradation rules, and may not cause receiving water concentrations to exceed the applicable standards specified in ~~Department Circular DEQ-7 and, unless a nutrient standards variance has been granted, Department Circular DEQ-12A~~ when stream flows equal or exceed the design flows specified in ARM [17.30.635](#)(4) (2).

(j) and (k) remain the same.

AUTH: [75-5-201](#), [75-5-301](#), MCA

IMP: [75-5-301](#), [75-5-313](#), MCA

17.30.624 B-2 CLASSIFICATION STANDARDS (1) remains the same.

(2) No person may violate the following specific water quality standards for waters classified B-2:

(a) through (g) remain the same.

(h) Concentrations of carcinogenic, bioconcentrating, toxic, radioactive, nutrient, or harmful parameters may not exceed the applicable standards set forth in ~~Department Circular~~

DEQ-7 and, unless a nutrient standards variance has been granted, Department Circular DEQ-12A.

(i) Dischargers issued permits under ARM Title 17, chapter 30, subchapter 13, shall conform with ARM Title 17, chapter 30, subchapter 7, the nondegradation rules, and may not cause receiving water concentrations to exceed the applicable standards specified in ~~d~~Department Circular DEQ-7 and, unless a nutrient standards variance has been granted, Department Circular DEQ-12A when stream flows equal or exceed the design flows specified in ARM 17.30.635~~(4)~~ (2).

(j) and (k) remain the same.

AUTH: [75-5-201](#), [75-5-301](#), MCA

IMP: [75-5-301](#), [75-5-313](#), MCA

17.30.625 B-3 CLASSIFICATION STANDARDS (1) remains the same.

(2) No person may violate the following specific water quality standards for waters classified B-3:

(a) through (g) remain the same.

(h) Concentrations of carcinogenic, bioconcentrating, toxic, radioactive, nutrient, or harmful parameters may not exceed the applicable standards set forth in ~~d~~Department Circular DEQ-7 and, unless a nutrient standards variance has been granted, Department Circular DEQ-12A.

(i) Dischargers issued permits under ARM Title 17, chapter 30, subchapter 13, shall conform with ARM Title 17, chapter 30, subchapter 7, the nondegradation rules, and may not cause receiving water concentrations to exceed the applicable standards specified in ~~d~~Department Circular DEQ-7 and, unless a nutrient standards variance has been granted, Department Circular DEQ-12A when stream flows equal or exceed the design flows specified in ARM 17.30.635~~(4)~~ (2).

(j) and (k) remain the same.

AUTH: [75-5-201](#), [75-5-301](#), MCA

IMP: [75-5-301](#), [75-5-313](#), MCA

17.30.626 C-1 CLASSIFICATION STANDARDS (1) remains the same.

(2) No person may violate the following specific water quality standards for waters classified C-1:

(a) through (g) remain the same.

(h) Concentrations of carcinogenic, bioconcentrating, toxic, radioactive, nutrient, or harmful parameters may not exceed the applicable standards specified in ~~d~~Department Circular DEQ-7 and, unless a nutrient standards variance has been granted, Department Circular DEQ-12A.

(i) Dischargers issued permits under ARM Title 17, chapter 30, subchapter 13, shall conform with ARM Title 17, chapter 30, subchapter 7, the nondegradation rules, and may not cause receiving water concentrations to exceed the applicable standards specified in ~~d~~Department Circular DEQ-7 and, unless a nutrient standards variance has been granted, Department Circular DEQ-12A when stream flows equal or exceed the design flows specified in ARM 17.30.635~~(4)~~ (2).

(j) and (k) remain the same.

AUTH: [75-5-201](#), [75-5-301](#), MCA

IMP: [75-5-301](#), [75-5-313](#), MCA

17.30.627 C-2 CLASSIFICATION STANDARDS (1) remains the same.

(2) No person may violate the following specific water quality standards for waters classified C-2:

(a) through (g) remain the same.

(h) Concentrations of carcinogenic, bioconcentrating, toxic, radioactive, nutrient, or harmful parameters may not exceed the applicable standards specified in ~~Department Circular WQB DEQ-7 and, unless a nutrient standards variance has been granted, Department Circular DEQ-12A.~~

(i) Dischargers issued permits under ARM Title 17, chapter 30, subchapter 13, shall conform with ARM Title 17, chapter 30, subchapter 7, the nondegradation rules, and may not cause receiving water concentrations to exceed the applicable standards specified in ~~Department Circular DEQ-7 and, unless a nutrient standards variance has been granted, Department Circular DEQ-12A~~ when stream flows equal or exceed the design flows specified in ARM ~~17.30.635(4) (2).~~

(j) and (k) remain the same.

AUTH: [75-5-201](#), [75-5-301](#), MCA

IMP: [75-5-301](#), [75-5-313](#), MCA

REASON: The proposed amendments to ARM [17.30.622](#) through [17.30.627](#) are necessary to incorporate DEQ-12A standards and nutrient standards variance limits into the surface water classes.

[17.30.628](#) I CLASSIFICATION STANDARDS (1) remains the same.

(2) No person may violate the following specific water quality standards for waters classified I:

(a) through (i) remain the same.

(j) Beneficial uses are considered supported when the concentrations of toxic, carcinogenic, nutrient, or harmful parameters in these waters do not exceed the applicable standards specified in ~~Department Circular DEQ-7 and, unless a nutrient standards variance has been granted, Department Circular DEQ-12A~~ when stream flows equal or exceed the flows specified in ARM ~~17.30.635(4) (2)~~ or, alternatively, for aquatic life when site-specific criteria are adopted using the procedures given in [75-5-310](#), MCA. The limits shall be used as water quality standards for the affected waters and as the basis for permit limits instead of the applicable standards in ~~Department Circular DEQ-7.~~

(k) Limits for toxic, carcinogenic, or harmful parameters in new discharge permits issued pursuant to the MPDES rules (ARM Title 17, chapter 30, subchapter 13) are the larger of either the applicable standards specified in ~~Department Circular DEQ-7 and, unless a nutrient standards variance has been granted, Department Circular DEQ-12A~~, site-specific standards, or one-half of the mean in-stream concentrations immediately upstream of the discharge point.

AUTH: [75-5-201](#), [75-5-301](#), MCA

IMP: [75-5-301](#), [75-5-313](#), MCA

REASON: The proposed amendment to ARM [17.30.628](#) is necessary to incorporate DEQ-12A and the nutrient standards variance limits into the I surface water class. I Class waterbodies are those which had severe human-caused pollution problems at the time the surface water class system was adopted in the 1970s, and it is the board's intent that these waterbodies will eventually support beneficial uses typical for ecologically similar, unimpacted waterbodies.

[17.30.629](#) C-3 CLASSIFICATION STANDARDS (1) remains the same.

(2) No person may violate the following specific water quality standards for waters

classified C-3:

(a) through (g) remain the same.

(h) Concentrations of carcinogenic, bioconcentrating, toxic, radioactive, nutrient, or harmful parameters may not exceed the applicable standards set forth in ~~Department Circular DEQ-7 and, unless a nutrient standards variance has been granted, Department Circular DEQ-12A.~~

(i) Dischargers issued permits under ARM Title 17, chapter 30, subchapter 13, shall conform with ARM Title 17, chapter 30, subchapter 7, the nondegradation rules, and may not cause receiving water concentrations to exceed the applicable standards specified in ~~Department Circular DEQ-7 and, unless a nutrient standards variance has been granted, Department Circular DEQ-12A~~ when stream flows equal or exceed the design flows specified in ARM ~~17.30.635(4)~~ (2).

(j) and (k) remain the same.

AUTH: [75-5-201](#), [75-5-301](#), MCA

IMP: [75-5-301](#), [75-5-313](#), MCA

REASON: The proposed amendments to ARM [17.30.629](#) are necessary to incorporate DEQ-12A standards and nutrient variance limits into the C-3 surface water class.

[17.30.635](#) **GENERAL TREATMENT STANDARDS** (1) through (1)(e) remain the same.

(2) For design of disposal systems, stream flow dilution requirements must be based on the minimum consecutive seven-day average flow which may be expected to occur on the average of once in ten years. When dilution flows are less than the above design flow at a point discharge, the discharge is to be governed by the permit conditions developed for the discharge through the waste discharge permit program. If the flow records on an affected surface water are insufficient to calculate a ten-year seven-day low flow, the department shall determine an acceptable stream flow for disposal system design. ~~The department shall determine the acceptable stream flow for disposal system design for controlling nitrogen and phosphorus concentrations. For total nitrogen and total phosphorus, the stream flow dilution requirements must be based on the seasonal 14Q5, which is the lowest average 14 consecutive day low flow, occurring from July through October, with an average recurrence frequency of once in five years.~~

(3) remains the same.

AUTH: [75-5-201](#), [75-5-301](#), MCA

IMP: [75-5-301](#), MCA

REASON: The proposed amendments to ARM [17.30.635](#) will provide a low flow for the design of disposal systems specific to eutrophication-based nutrient standards. Work by the department and others shows that nuisance benthic algae can develop in about 15-20 days once nutrient concentrations exceed the proposed standards. In many streams, these algae levels can ultimately lead to dissolved oxygen impacts. The use of the seasonal 14Q5 flow for the design of disposal systems is appropriate because this flow should not allow excess algae levels to develop more often than about once in five summers, on average. This frequency of exceedence is within the acceptable recommendations of the U.S. Environmental Protection Agency for the protection of aquatic life. Unlike the 7Q10 flow, which will continue to be used for parameters in DEQ-7 and which was derived from year-round flow data, the seasonal 14Q5 flow is derived from July through October data and is, therefore, in alignment with the proposed nutrient standards' periods of application. The seasonal 14Q5 is routinely calculated and reported by the U.S. Geological Survey.

[17.30.702](#) **DEFINITIONS** The following definitions, in addition to those in [75-5-103](#), MCA,

apply throughout this subchapter (Note: [75-5-103](#), MCA, includes definitions for "base numeric nutrient standards," "degradation," "existing uses," "high quality waters," "mixing zone," and "parameter"):

(1) through (16) remain the same.

~~(17)~~ "Nutrients" means total inorganic phosphorus and total inorganic nitrogen.

(18) through (21) remain the same, but are renumbered (17) through (20).

~~(22)~~ (21) "Reporting values (RRV)" means the detection level that must be achieved in reporting surface water or ground water monitoring or compliance data to the department unless otherwise specified in a permit, approval, or authorization issued by the department. The RRV is the department's board's best determination of a level of analysis that can be achieved by the majority of commercial, university, or governmental laboratories using EPA approved methods or methods approved by the department. The RRV is listed in Department Circular DEQ-7, Department Circular DEQ-12A, and in the definition of "total inorganic phosphorus."

(23) remains the same, but is renumbered (22).

(23) "Total nitrogen" means the sum of all nitrate, nitrite, ammonia, and organic nitrogen, as N, in an unfiltered water sample. Total nitrogen in a sample may also be determined by persulfate digestion, or as the sum of total kjeldahl nitrogen plus nitrate plus nitrite.

(24) "Total phosphorus" means the sum of orthophosphates, polyphosphates, and organically bound phosphates, as P, in an unfiltered water sample. Total phosphorus may also be determined directly by persulfate digestion.

(24) and (25) remain as proposed, but are renumbered (25) and (26).

~~(26)~~ (27) The board adopts and incorporates by reference:

(a) Department Circular DEQ-7, entitled "Montana Numeric Water Quality Standards" (October 2012 edition), which establishes water quality standards for toxic, carcinogenic, bioconcentrating, ~~nutrient,~~ radioactive, and harmful parameters and also establishes human health-based water quality standards for the following specific nutrients with toxic effects:

(i) nitrate;

(ii) nitrate + nitrite; and

(iii) nitrite;

(b) Department Circular DEQ-12A, entitled "Montana Base Numeric Nutrient Standards" (December 2013 edition), which establishes numeric water quality standards for total nitrogen and total phosphorus in surface waters;

(b) through (d) remain the same, but are renumbered (c) through (e).

AUTH: [75-5-301](#), [75-5-303](#), MCA

IMP: [75-5-303](#), MCA

REASON: The proposed amendments to ARM [17.30.702](#) will modify current definitions in the nondegradation rules and will add new definitions necessary for the implementation of base numeric nutrient standards. "Base numeric nutrients standards" have been added to the list of definitions from [75-5-103](#), MCA, that are incorporated by reference. The current definition of "nutrients," at (17), is being repealed, because it is not consistent with the use of the term in DEQ-12A, which contains standards for total nutrients. Further, the definition of "nutrients" added no clear value to the nondegradation rules, because, where needed, specific nutrient compounds or forms (e.g., TKN, nitrate as N) are named or referenced in the nondegradation rules. The proposed definitions of "total nitrogen," at (24), and "total phosphorus," at (25), correspond to those discussed above for amendments to ARM [17.30.602](#). The definition of "DEQ-7," in (28)(b), has been amended for the same reasons described above for ARM [17.30.602](#).

17.30.715 CRITERIA FOR DETERMINING NONSIGNIFICANT CHANGES IN WATER QUALITY (1) The following criteria will be used to determine whether certain activities or classes

of activities will result in nonsignificant changes in existing water quality due to their low potential to affect human health or the environment. These criteria consider the quantity and strength of the pollutant, the length of time the changes will occur, and the character of the pollutant. Except as provided in (2), changes in existing surface or ground water quality resulting from the activities that meet all the criteria listed below are nonsignificant, and are not required to undergo review under [75-5-303](#), MCA:

(a) and (b) remain the same.

(c) discharges containing toxic parameters, ~~inorganic nitrogen, or inorganic phosphorus or nutrients~~, except as specified in (1)(d) and (e), which will not cause changes that equal or exceed the trigger values in ~~d~~Department Circular DEQ-7. Whenever the change exceeds the trigger value, the change is not significant if the resulting concentration outside of a mixing zone designated by the department does not exceed 15% of the lowest applicable standard;

(d) through (e) remain the same.

(f) changes in the quality of water for any harmful parameter, including parameters listed in Department Circular DEQ-12A, for which water quality standards have been adopted other than ~~nitrogen, phosphorus, and~~ carcinogenic, bioconcentrating, or toxic parameters, in either surface or ground water, if the changes outside of a mixing zone designated by the department are less than 10% of the applicable standard and the existing water quality level is less than 40% of the standard;

(g) through (3) remain the same.

(4) If a court of competent jurisdiction declares [75-5-313](#), MCA, or any portion of that statute invalid or if the United States Environmental Protection Agency disapproves [75-5-313](#), MCA, or any portion of that statute under 30 CFR 131.21, then the significance criteria contained in (1)(g) are the significance criteria for total nitrogen and total phosphorus in surface water.

AUTH: [75-5-301](#), [75-5-303](#), MCA

IMP: [75-5-303](#), MCA

REASON: The proposed amendments to ARM [17.30.715](#) will allow the department to calculate nonsignificant changes in water quality for the base numeric nutrient standards in DEQ-12A. If adopted by the board, base numeric nutrient standards will preclude the need to use the narrative standards at ARM [17.30.637](#)(1)(e) to interpret eutrophication-based water quality impacts from nutrients. Base numeric nutrient standards are intended to control eutrophication and, at the concentrations found in DEQ-12A, the board considers base numeric nutrient standards to be harmful parameters. Therefore, DEQ-12A is incorporated into (1)(f), the section of the nondegradation rules addressing nonsignificance specific to harmful parameters.

Nitrogen compounds at concentrations that are toxic, e.g., nitrate at ten mg/L, will remain in DEQ-7, as discussed earlier, and toxics-based nonsignificance criteria applicable to such compounds will continue to be applied to them. The proposed deletion of "or nutrients," in (1)(c), corresponds with the retaining of toxic-level nitrogen compounds in DEQ-7 and the relocation of eutrophication-based nitrogen and phosphorus standards to DEQ-12A. In addition, the term "or nutrients" in (1)(c) has been replaced with "or total inorganic phosphorus or total inorganic nitrogen," for the specific purpose of providing a nonsignificance threshold for nondegradation review of new dischargers, which are commonly subdivisions. This change allows the department to continue to carry out these reviews in the same manner as currently practiced, because DEQ-7 provides a trigger value for both of these inorganic compounds. ARM [17.30.715](#)(1)(c) also provides: "Whenever the change exceeds the trigger value, the change is not significant if the resulting concentration outside of a mixing zone designated by the department does not exceed 15% of the lowest applicable standard." When these provisions become applicable, the "lowest applicable standard" would be the narrative standard contained in ARM [17.30.637](#)(1)(e). Significance would then be determined under ARM [17.30.715](#)(1)(g). Proposed new (4) is a non-severability clause. If the statute that defines the

nutrient standards variance process is rendered invalid, then the numeric nutrient standards in DEQ-12A are void and the narrative standard for nutrients at ARM [17.30.637\(1\)\(e\)](#) applies. As a result, the part of the nondegradation rules at ARM [17.30.715\(1\)\(g\)](#) that relate to the narrative standards would apply. The Legislature intended that both major pieces of the numeric nutrient standards rules (base numeric nutrient standards and nutrient standards variances) remain together as a package.

5. The proposed new circular may be viewed at and copied from the department's web site at <http://deq.mt.gov/wqinfo/Standards/default.mcp>. Also, copies may be obtained by contacting Carrie Greeley at Department of Environmental Quality, P.O. Box 200901, Helena, MT 59620-0901; by phone at (406) 444-6749; or by e-mail at CGreeley@mt.gov.

6. Concerned persons may submit their data, views, or arguments, either orally or in writing, at the hearing. Written data, views, or arguments may also be submitted to Elois Johnson, Paralegal, Department of Environmental Quality, 1520 E. Sixth Avenue, P.O. Box 200901, Helena, Montana 59620-0901; faxed to (406) 444-4386; or e-mailed to ejohnson@mt.gov, no later than 5:00 p.m., April 1, 2014. To be guaranteed consideration, mailed comments must be postmarked on or before that date.

7. Katherine Orr, attorney for the board, or another attorney for the Agency Legal Services Bureau, has been designated to preside over and conduct the hearing.

8. The board maintains a list of interested persons who wish to receive notices of rulemaking actions proposed by this agency. Persons who wish to have their name added to the list shall make a written request that includes the name, e-mail, and mailing address of the person to receive notices and specifies that the person wishes to receive notices regarding: air quality; hazardous waste/waste oil; asbestos control; water/wastewater treatment plant operator certification; solid waste; junk vehicles; infectious waste; public water supply; public sewage systems regulation; hard rock (metal) mine reclamation; major facility siting; opencut mine reclamation; strip mine reclamation; subdivisions; renewable energy grants/loans; wastewater treatment or safe drinking water revolving grants and loans; water quality; CECRA; underground/above ground storage tanks; MEPA; or general procedural rules other than MEPA. Notices will be sent by e-mail unless a mailing preference is noted in the request. Such written request may be mailed or delivered to Elois Johnson, Paralegal, Department of Environmental Quality, 1520 E. Sixth Ave., P.O. Box 200901, Helena, Montana 59620-0901, faxed to the office at (406) 444-4386, e-mailed to [Elois Johnson at ejohnson@mt.gov](mailto:ejohnson@mt.gov), or may be made by completing a request form at any rules hearing held by the board.

9. The bill sponsor contact requirements of [2-4-302](#), MCA, do not apply.

10. With regard to the requirements of [2-4-111](#), MCA, the department has determined that the amendment of the above-referenced rules will significantly and directly impact small businesses.

Reviewed by:

BOARD OF ENVIRONMENTAL REVIEW

/s/ John F. North
JOHN F. NORTH
Rule Reviewer

BY: /s/ Robin Shropshire
ROBIN SHROPSHIRE
Chairman

Certified to the Secretary of State, February 3, 2014.

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For questions about the organization of the ARM or this web site, contact sosarm@mt.gov.