

BEFORE THE DEPARTMENT OF ENVIRONMENTAL QUALITY
OF THE STATE OF MONTANA

In the matter of the adoption of new rule)	NOTICE OF PUBLIC HEARING ON
I pertaining to nutrient standards)	PROPOSED ADOPTION
variances)	
)	(WATER QUALITY)

TO: All Concerned Persons

1. On March 24, 2014, at 10:00 a.m., the Department of Environmental Quality will hold a public hearing in Room 111 of the Metcalf Building, 1520 E. Sixth Ave., Helena, Montana, to consider the proposed adoption of the above-stated rule. Immediately preceding the hearing at 9:00 a.m. at the same location, the department will hold an informal question and answer session regarding this rulemaking and MAR Notice No. 17-356, which is the Board of Environmental Review's proposed adoption of numeric nutrient standards.

2. The department 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 proposed new rule provides as follows:

NEW RULE I NUTRIENT STANDARDS VARIANCES (1) A person may apply to the department for a nutrient standards variance at any time following the board's adoption of base numeric nutrient standards. In addition to this rule, variances are subject to the procedures and requirements contained in Department Circular DEQ-12B ([month of adoption] 2014 edition).

(2) An application for a general variance must provide information demonstrating that the wastewater treatment facility meets the requirements of Department Circular DEQ-12B ([month of adoption] 2014 edition). The decision to grant the general variance must be reflected in the permit that is made available for public comment.

(3) An application for an individual variance must adequately demonstrate that there are no reasonable alternatives that eliminate the need for a variance and that attainment of the base numeric nutrient standards is precluded due to economic impacts or limits of technology, or both. If the demonstration relies upon economic impacts, the department shall consider any guidance developed by the department and the nutrient work group, as provided in 75-5-313(2), MCA.

(4) The department may approve the adoption of an individual variance that specifies interim effluent limits different from those contained in general variance limits contained in Department Circular DEQ-12B ([month of adoption] 2014 edition),

if water quality modeling demonstrates that greater emphasis on the reduction of one nutrient may achieve similar water quality and biological improvements as would the equal reduction of both nitrogen and phosphorus. The variance must provide effluent limits that reflect the lowest effluent concentration that is feasible based on achieving the highest attainable condition for the receiving water. A person shall submit the proposed effluent limits and supporting data in an application for an individual nutrient variance under (3). A person who has an individual variance with effluent limits that are based on this section shall, in each subsequent triennial review of those limits conducted pursuant to 75-5-313(7), MCA, collect and submit water quality data to demonstrate whether the biological status of the receiving water continues to justify those effluent limits.

(5) The department shall review each application for an individual variance to determine whether a reasonable alternative, such as trading, a permit compliance schedule, a general variance, reuse, recharge, or land application would eliminate the need for an individual variance. If the department makes a preliminary finding that a reasonable alternative to approving an individual variance is available, the department shall consult with the applicant prior to making a final decision to approve or deny the individual variance.

(6) If, after consultation with the applicant, the department determines that no reasonable alternative to an individual variance exists, the department shall determine whether the information provided by the applicant pursuant to (3) adequately demonstrates that attaining the base numeric nutrient standards is not feasible. If the department finds that attaining the base numeric nutrient standards is not feasible, the department shall approve an individual variance, which will become effective and incorporated into the applicant's permit only after adoption by the department in a formal rulemaking proceeding.

(7) A variance is not needed in situations where a person complies with the waste load allocation established in an approved TMDL.

(8) The department adopts and incorporates by reference Department Circular DEQ-12B, entitled "Nutrient Standards Variances" ([month of adoption] 2014 edition), which provides procedures and requirements for nutrient standards variances. Copies of Department Circular DEQ-12B are available at the Department of Environmental Quality, 1520 East 6th Avenue, P.O. Box 200901, Helena, MT 59620-0901.

AUTH: 75-5-201, 75-5-301, MCA

IMP: 75-5-313, MCA

REASON: The Board of Environmental Review is initiating rulemaking to adopt base numeric nutrient standards. The nutrient concentrations being proposed 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. That statute allows dischargers to be

granted variances from base numeric nutrient 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 20 years. Thus, 75-5-313, MCA, allows for the base numeric 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. New Rule I, which incorporates proposed Department Circular DEQ-12B (DEQ-12B), is being proposed to implement 75-5-313, MCA. New Rule I and DEQ-12B provide a process for granting variances and factors that the department will consider when deciding whether a person may be granted an individual nutrient standards variance.

New Rule I(1) makes clear that variances are available only after the time that the board adopts base numeric nutrient standards. The department is required to adopt the statute-defined general variance categories and their associated concentrations and conditions into department rule by May 31, 2016. This rulemaking adopts those concentrations. After that date, the concentrations and conditions associated with each category may be modified by the department in a rulemaking proceeding.

New Rule I(2) merely reflects the procedural requirement contained in 75-5-313, MCA.

New Rule I(3) requires the applicant to explore alternatives to discharging that may preclude the need for an individual variance. This implements 75-5-313(3), MCA.

New Rule I(4) addresses the situation in which water quality modeling for a river or stream segment indicates that greater reduction of one nutrient can achieve the same desired physical or biological condition as reducing both nitrogen and phosphorus. In such cases, requiring a point source discharger to immediately install sophisticated nutrient-removal technologies to reduce to general variance levels the concentration of the less-important nutrient may not be the most prudent nutrient control expenditure and would cause the discharger to incur unnecessary economic expense. Because this relates to economic expense, these situations may be addressed with an individual variance. Nutrient limitation status of water bodies can change due to a number of factors. For example, it can change due to substantive nonpoint source cleanups upstream of the discharger. Therefore, status monitoring by dischargers receiving this type of individual variance is required per New Rule I(4).

New Rule I(5) requires the department to consult with the applicant regarding what the department perceives to be the availability of reasonable alternatives which would preclude the need for the individual variance. This consultation would occur before the department makes a final decision regarding the granting of the individual variance. Requiring consultation with the applicant assures that the reasonable alternatives decision is made based on complete information.

If it results that no reasonable alternative can be identified, New Rule I(6) requires the department to determine if the applicant has adequately demonstrated compliance. This implements 75-5-313(1), MCA.

New Rule I(7) simply makes clear that, in the development of a TMDL, it may be determined that a point source discharger is an insignificant load of nutrients and,

in such cases, there would be no need for the discharger to request a nutrient standards variance, because the current level of total nitrogen and total phosphorus removal is adequate.

New Rule I(8) adopts DEQ-12B by reference. Section 75-5-313, MCA, provides for different types of variances and directs the department and the nutrient work group to develop guidance on implementing individual variances. DEQ-12B contains the individual variance implementation details that have been developed by the department and the nutrient work group over the past five years. For example, in DEQ-12B, individual variances from the base numeric nutrient standards may be granted for economic reasons using two different approaches: (a) via a direct assessment of a community's ability to pay for increased wastewater treatment; and (b) via an evaluation to determine if a stream receiving wastewater can support beneficial uses at nutrient concentrations higher than the proposed standards (discussed above for New Rule I(4)). Individual variances granted by the department will be documented in DEQ-12B. In addition, DEQ-12B addresses other specifics pertaining to variances, for example how general variance treatment requirements will be re-evaluated every three years, how general and individual variances will be expressed in discharge permits, and specifics on the nutrient-reduction optimization study (required for recipients of general variances). As is required by 75-5-313(6)(a), MCA, DEQ-12B adopts the variance limits contained in 75-5-313(5)(b), MCA. Department Circular DEQ-12B sunsets these limits in 2017 in order to ensure that the department takes action pursuant to the review mandated by 75-5-313(7)(a), MCA. In short, 75-5-313, MCA, provides for variances and DEQ-12B provides additional, technical details necessary to implement the concept.

4. 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.

5. 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 Carrie Greeley, Department of Environmental Quality, 1520 E. Sixth Avenue, P.O. Box 200901, Helena, Montana 59620-0901; faxed to (406) 444-6836; or e-mailed to deqwqadmin@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.

6. George Mathieus, Administrator of the Planning, Prevention, and Assistance Division of the Department of Environmental Quality, has been designated to preside over and conduct the hearing.

7. The department 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, or may be made by completing a request form at any rules hearing held by the board.

8. The bill sponsor contact requirements of 2-4-302, MCA, apply and have been fulfilled. The primary bill sponsor was contacted by the department in person on September 15, 2011.

9. With regard to the requirements of 2-4-111, MCA, the department has determined that the adoption of the above-referenced rule will not significantly and directly impact small businesses.

Reviewed by:

DEPARTMENT OF ENVIRONMENTAL
QUALITY

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

BY: /s/ Tracy Stone-Manning
TRACY STONE-MANNING, Director

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



DEPARTMENT CIRCULAR

DEQ-12B

Nutrient Standards Variances

GENERAL INTRODUCTION

This circular (DEQ-12B) contains information about variances from the base numeric nutrient standards. This information includes details on effluent treatment requirements associated with general nutrient standards variances, as well as effluent treatment requirements for individual nutrient standards variances and to whom they apply.

Circular DEQ-12A contains the base numeric nutrient standards' concentration limits, where the standards apply, and their period of application. Circular DEQ-12A is in a separate document also available from the Department. Circular DEQ-12A is adopted by the Board of Environmental Review under its rulemaking authority in §75-5-301(2), MCA. Unlike DEQ-12A, DEQ-12B (this circular) is not adopted by the Board of Environmental Review. DEQ-12B is adopted by the Department following its formal rulemaking process, pursuant to §75-5-313, MCA.

The Department has reviewed a considerable amount of scientific literature and has carried out scientific research on its own in order to derive the base numeric nutrient standards (see References in DEQ-12A). Because many of the base numeric nutrient standards are stringent and may be difficult for MPDES permit holders to meet in the short term, Montana's Legislature adopted laws (e.g., §75-5-313, MCA) allowing for the achievement of the standards over time via the variance procedures found here in Circular DEQ-12B. This approach should allow time for nitrogen and phosphorus removal technologies to improve and become less costly, and to allow time for nonpoint sources of nitrogen and phosphorus pollution to be better addressed.

Circular DEQ-12B

(Month of Adoption) 2014 EDITION

1.0 Introduction

Elements comprising Circular DEQ-12B are found below. These elements are adopted by the Department following the Department's formal rulemaking process. Montana state law (§75-5-103 (22), MCA and 75-5-313, MCA) allows for variances from the base numeric nutrient standards (found in Circular DEQ-12A) based on a determination that the base numeric nutrient standards cannot be achieved because of economic impacts, the limits of technology, or both.

1.1 Definitions

1. **Monthly average** means the sum of the daily discharge values during the period in which the base numeric nutrient standard applies divided by the number of days in the sample. See also, "Technical Support Document for Water Quality-based Toxics Control," Document No. EPA/505/2-90-001, United States Environmental Protection Agency, 1991.

2.0 General Nutrient Standards Variances

Because the treatment of wastewater to base numeric nutrient standards in 2011 would have resulted in substantial and widespread economic impacts on a statewide basis (§75-5-313 (5)(a), MCA), a permittee who meets the end-of-pipe treatment requirements provided below in **Table 12B-1** may apply for and the Department shall approve a general nutrient standards variance ("general variance") (§75-5-313(5)(b), MCA). The requirements in **Table 12B-1** expire on July 1, 2017. Those requirements may be extended without modification or modified and extended in a rulemaking proceeding conducted by the Department. The Department will process the general variance request through the discharge permit and include information on the period of the variance and the interim requirements. A person may apply for a general variance for either total phosphorus or total nitrogen, or both. The general variance may be established for a period not to exceed 20 years. A compliance schedule to meet the treatment requirements shown in **Table 12B-1** may be granted on a case-by-case basis. The final permit limit will be expressed as a load only.

Cases will arise in which a permittee is or will be discharging effluent with nitrogen and/or phosphorus concentrations lower than (i.e., better than) the minimum requirements of a general variance, but the resulting concentrations outside of the mixing zone still exceed the base numeric nutrient standards. Such permitted discharges are still within the scope of the general variance, because the statute contemplates that a general variance is allowable if the permittee treats the discharge to, **at a minimum**, the concentrations indicated by §75-5-313(5)(b)(i) and (ii), MCA. Thus, permitted discharges better than those at §75-5-313(5)(b)(i) and (ii), MCA, are not precluded from falling under a general variance. In a permitted discharge, the interim limits provided for under a general variance (or an

individual variance) will apply, even if such limits differ from those that might otherwise apply based on a wasteload allocation derived in a Total Maximum Daily Load (TMDL). The interim limits will apply during the time period over which the variance is applicable.

Table 12B-1. General variance end-of-pipe treatment requirements.

Discharger Category ¹	Monthly Average	
	Total P (µg/L)	Total N (µg/L)
≥ 1.0 million gallons per day	1,000	10,000
< 1.0 million gallons per day	2,000	15,000
Lagoons not designed to actively remove nutrients	Maintain current performance	Maintain current performance

¹ See Endnote 1

The Department must review the general variance treatment requirements every three years to assure that the justification for their adoption remains valid. The review may not take place before June 1, 2016, and must occur triennially thereafter. The purpose of the review is to determine whether there is new information that supports modifying (e.g., revising the interim effluent treatment requirements) or terminating the variance. If a low-cost technological innovation for lowering nitrogen and phosphorus concentrations in effluent were to become widely available in the near future, for example, the Department could (after May 2016) make more stringent the concentrations shown in **Table 12B-1**. If, after May 2016, the Department were to adopt general variance treatment requirements more stringent than those provided in **Table 12B-1**, revised effluent limits will be included with the permit during the next permit cycle, unless the demonstrations discussed in **Section 3.0** below are made. A compliance schedule may also be granted to provide time to achieve compliance with revised effluent limits.

The Department (and the Nutrient Work Group) will consider whether or not more cost-effective and efficient treatment technologies are available when determining whether the general variance treatment requirements must be updated in accordance with §75-5-313(7)(a) and (b), MCA. The review will occur triennially and will be carried out at a state-wide scale, i.e., the Department will consider the aggregate economic impact to dischargers within a category (the > 1 MGD category, for example).

Based on the triennial review preliminary findings and conclusions, the Department will issue a solicitation for public comment on the nutrient concentrations and conditions associated with the three general variance categories. The proposal will solicit comments from the public on whether the general variances should be: (1) extended without modification, (2) modified and extended, or (3) allowed to expire. Based on the review conclusions and the public comment, the Department will draft final

findings and conclusions and will initiate rulemaking if it determines that the variances should be extended, with or without modification.

2.1 Wastewater Facility Optimization Study

Permittees receiving a general variance are required to evaluate current facility operations in order to optimize nutrient reduction with existing infrastructure and shall analyze cost-effective methods of reducing nutrient loading including, but not limited to, nutrient trading without substantial investment in new infrastructure (§75-5-313(9)(a), MCA). The Department encourages permittees to examine a full array of reasonable options including, but not limited to, facility optimization, reuse, recharge, and land application. The Department may request the results of the optimization/nutrient reduction analysis within two years of granting a general variance to a permittee.

Changes to facility operations resulting from the analysis carried out as above are only intended to be refinements to the wastewater treatment system already in place. Therefore, optimizations:

1. should only address changes to facility operation and maintenance and should not be structural changes;
2. should not result in rate increases or substantial investment; and
3. must include exploration of the feasibility of nutrient trading within the watershed.

How the analysis is to be conducted, and by whom, is left to the discretion of the permittee. The Department encourages the use of a third-party firm with expertise in this subject.

3.0 Individual Nutrient Standards Variances

The following sections describe (1) the basis for an individual variance, and (2) an alternate method for deriving appropriate interim effluent limits for an individual discharger. For both of these types of individual variances, the final permit limit will be expressed as a load only.

3.1 Individual Variance Based on Substantial and Widespread Economic Impacts

Montana law allows for the granting of nutrient standards variances based on the particular economic and financial situation of a permittee (§75-5-313(1), MCA). Individual nutrient standards variances (“individual variances”) may be granted on a case-by-case basis because the attainment of the base numeric nutrient standards is precluded due to economic impacts, limits of technology, or both. Individual variances discussed in this section are generally intended for permittees who would have financial difficulties meeting the general variance concentrations and are seeking individual nitrogen and phosphorus permit limits tailored to their specific economic situation.

Like the general variance in **Section 2.0**, individual variances may be established for a period not to exceed 20 years and must be reviewed by the Department every three years to ensure that their justification remains valid. Unlike the general variances discussed in **Section 2.0**, the Department will

only grant an individual variance to a permittee after the permittee has made a demonstration to the Department that meeting the underlying standards would require water quality-based controls that result in substantial and widespread social and economic impacts. The variance application will identify the lowest effluent concentration that is feasible based on achieving the highest attainable condition. A permittee, using the assessment process referred to above, must also demonstrate to the Department that there are no reasonable alternatives including, but not limited to, trading, compliance schedules, reuse, recharge, and land application that would allow compliance with the base numeric nutrient standards. If no reasonable alternatives exist, then an individual variance is justifiable and becomes effective and may be incorporated into a permit following the Department's formal rulemaking process. Like any variance, individual variances must be adopted as revisions to Montana's standards and submitted to EPA for approval. Individual variances the Department may adopt in the future will be documented in **Table 12B-2** below.

Since the basis of this type of individual variance is related to the economic status of a community or permittee, at each triennial review the Department will consider if the basic economic status of that community or permittee has substantially changed. The same parameters used to justify the original individual variance will be considered. If new, low-cost nutrient removal technologies have become widely available, or if the economic status of the community or permittee has sharply improved, the basis of the variance may no longer be justified. In such cases the Department will discuss with the permittee the options going forward including, but not limited to, a permit compliance schedule, trading, reuse, recharge, land application, or a general variance.

Based on the triennial review preliminary findings and conclusions, the Department will issue a solicitation for public comment on the individual variances. The proposal will solicit comments from the public on whether each variance should be: (1) re-adopted without changes, (2) re-adopted with changes, or (3) terminated. Based on the review conclusions and public comment, the Department will draft final findings and conclusions. If the findings and conclusions indicate that the variance(s) should be modified or terminated, the Department will initiate rulemaking to do so.

3.2 Individual Variance Effluent Limits Based on Site-specific Water Quality Modeling

Generally, the interim effluent limits in any variance, general or individual, will be based on achieving the highest attainable condition within the receiving water. In some cases a permittee may be able to demonstrate, using water quality modeling and reach-specific data, that greater emphasis on reducing one nutrient (target nutrient) will achieve the highest attainable condition, since it would produce comparable water quality and biological conditions in the receiving water as could be achieved by emphasizing the equal reduction of both nutrients (i.e., both nitrogen and phosphorus). Requiring such a permittee to immediately install sophisticated nutrient-removal technologies to reduce the non-target nutrient to levels as stringent as what is in statute at §75-5-313(5)(b), MCA, would not be the most prudent nutrient control expenditure and could cause the discharger to incur unnecessary economic expense. In such a case, the interim effluent limits for the individual discharger may be adjusted to reflect greater emphasis on controlling one of the parameters, so long as the highest attainable

condition is maintained within the receiving water. The permittee will be required to submit the demonstration with the proposed interim effluent limits to the Department for review and will be required to provide monitoring water quality data that can be used to determine if the justifications for the interim effluent limits continue to hold true (i.e., status monitoring). Because status can change, for example due to substantive nonpoint source cleanups upstream of the discharger, status monitoring by the discharger is required.

The nutrient concentrations identified via this modeling may eventually be adopted as site-specific standards under the Board of Environmental Review's rulemaking authority in §75-5-301(2), MCA, but would require an analysis of their downstream effects prior to adoption.

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4.0 Endnotes

(1) Based on facility design flow.

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