

Environmental Review Program Rules

Minnesota Rules, Chapter 4410

Amendment of Part 4410.4300, subpart 15, Mandatory EAW Category regarding Air Pollution, with respect to Greenhouse Gas Emissions

Statement of Need and Reasonableness

Rulemaking Authorized November 18, 2010

INTRODUCTION

This proposed rulemaking would amend one mandatory Environmental Assessment Worksheet (EAW) category of the Environmental Review program rules in chapter 4410, specifically the “air pollution” category at part 4410.4300, subpart 15. The purpose of this amendment is to provide an explicit threshold level to apply to Greenhouse Gas emissions that is different from the threshold level that applies to all other air pollutants. The need to establish a threshold specific to Greenhouse Gas emissions is due to changes in their status as air pollutants under the federal Clean Air Act.

This document explains the need for and reasonableness of this proposed amendment. It summarizes the evidence and arguments that the Board is relying upon to justify the proposed amendments. It has been prepared to satisfy the requirements of Minnesota Statutes, section 14.131 and Minnesota Rules, part 1400.2070.

The Minnesota Environmental Review Program, established by the Minnesota Environmental Policy Act of 1973, has been in existence since 1974. The program operates under rules adopted by the Environmental Quality Board, which are binding upon all state agencies and political subdivisions of the state. The rules contain two basic parts: the procedures and standards for review under this program and listings of types of projects either for which review is mandatory or which are exempted entirely from review under this program. Mandatory review can either be in the form of an Environmental Assessment Worksheet or an Environmental Impact Statement (EIS). The lists of types of projects subject to those requirements are generally referred to as the “mandatory categories.” The lists of exempt projects are referred to as “exemptions categories” or sometimes just “exemptions.” The list of mandatory EAWs is found at Minnesota Rules, part 4410.4300, mandatory EISs, at 4410.4400, and exemptions, at 4410.4600.

BACKGROUND

The EQB) proposes to amend the “Air Pollution” mandatory EAW category, at part 4410.4300, subpart 15, to clarify how Greenhouse Gases (GHGs) are to be treated. This subpart now requires preparation of an EAW “for construction of a stationary source facility that generates 250 tons or more per year, or modification of a stationary source facility that increases generation by 250 tons

or more per year, of any single air pollutant after installation of air pollution control equipment.” The Pollution Control Agency (MPCA) is assigned responsibility for preparing all EAWs under this category.

The Environmental Review program rules do not define “air pollutant.” In practice the MPCA has applied this mandatory category to substances regulated as air pollutants under the federal Clean Air Act. (The MPCA issues Clean Air Act permits for facilities in Minnesota.) In the past, GHGs have not been issued permits. However, in response to a U.S. Supreme Court ruling in a lawsuit in 2007, the U.S. Environmental Protection Agency (EPA) issued a regulation in 2010 under which GHG emissions will be covered by Clean Air Act permits under certain circumstances beginning in January 2011. For Minnesota, the permits will be issued by the MPCA. The permits will cover GHG emissions of at least 75,000 tons per year or 100,000 tons per year, depending on other factors, of carbon dioxide equivalents (carbon dioxide equivalents is a way of accounting for the differing potencies of the various GHGs). These levels are much higher than the permitting thresholds that apply to other air pollutants, which are 100 or 250 tons per year, depending on circumstances, and are intended to cover only the largest types of GHG emitting facilities, such as power plants and refineries.

Because “air pollutant” is not defined and has historically been taken to mean substances regulated under the Clean Air Act, the fact that GHGs will be regulated under the Clean Air Act beginning in 2011 raises the question of whether GHG emissions that exceed the existing 250 tons per year mandatory EAW threshold will require preparation of an EAW. The EQB believes that the 250 tons per year threshold is too low with respect to GHGs. Consequently, the EQB proposes to adopt a separate mandatory EAW threshold specific to GHGs which is consistent with the new regulatory scheme for GHGs under the Clean Air Act.

ALTERNATIVE FORMAT

Upon request, this Statement of Need and Reasonableness can be made available in an alternative format, such as large print, Braille, or cassette tape. To make a request, contact the EQB secretary, at Environmental Quality Board, 300 Centennial Building, 658 Cedar Street, St. Paul, MN 55155; telephone: 651/201-2464; fax: 651/296-3698. TTY users may call the Department of Administration at 800-627-3529.

STATUTORY AUTHORITY

The Board’s statutory authority to adopt the rule amendments is given in the Environmental Policy Act, Minn. Stat. 116D.04, subs. 2a(a), 4a & 5a and 116D.045, subd. 1. Under these provisions, the Board has the necessary statutory authority to adopt the proposed rules amendments. In particular, subdivision 2a(a) directs the Board to establish mandatory categories for EAWs, EISs, and Exemptions by rule.

REGULATORY ANALYSIS

Minnesota Statutes, section 14.131, sets out seven factors for a regulatory analysis that must be included in the SONAR. Paragraphs (1) through (7) below quote these factors and then give the EQB's response

“(1) a description of the classes of persons who probably will be affected by the proposed rule, including classes that will bear the costs of the proposed rule and classes that will benefit from the proposed rule”

The proposed amendment will directly affect proposers of new or expansion projects with emissions of GHGs of more than 100,000 tons per year, expressed as carbon dioxide equivalents.

Only a few types of projects are likely to have such high GHG emissions; EPA lists power plants, petroleum refineries, and cement manufacturing plants as the likely examples. In Minnesota, MPCA reports that its inventory of existing emission sources contains about 100 sources that now exceed 100,000 tons per year of carbon dioxide. Because these existing sources have been built over decades, it is apparent that in any given year there are not likely to be more than a handful of new or expanded sources that would exceed the proposed 100,000 ton threshold for an EAW. Not only would few such projects occur, but many of them that do would already require EAWs due to other existing EAW mandatory categories in part 4410.4300. For example, under subpart 3, electric power generation of 25 or more megawatts requires an EAW. Under subpart 4, expansion of a petroleum refinery by 10,000 or more barrels per day requires an EAW and a new refinery requires a mandatory EIS. Other potential major air emission sources, such as fuel conversion facilities (including ethanol plants) have their own mandatory EAW categories, and many sources of GHG emissions might also exceed the existing air pollutant threshold of 250 tons per year. Thus overall, there would be few project proposers required to do an EAW by the adoption of this amendment.

The main beneficiaries of the proposed amendment would be proposers of development projects with GHG emissions over 250 but less than 100,000 tons per year carbon dioxide equivalents. This group would include a great many types of projects since relatively small projects emit at least 250 tons per year of carbon dioxide itself due to combustion of fuel for heating alone. The MPCA staff informed EQB that even an office of 8,000 square feet would likely exceed this limit. Thus proposers of many commercial, industrial, residential and other common forms of development would benefit from this amendment in that they would not be required to prepare EAWs for their projects if the threshold is adjusted upward as proposed.

“(2) the probable costs to the agency and to any other agency of the implementation and enforcement of the proposed rule and any anticipated effect on state revenues”

The EQB will itself experience negligible costs due to the adoption of the proposed amendment; the only costs will result from editing guidance materials to reflect the amendment. However, since the MPCA will be the RGU for EAWs prepared under the amendment, there will be increased staff costs for MPCA. As explained in section (5) below, EQB assumes 5 additional EAWs will be required per year due to the amendment. Based on data submitted by MPCA for the 2006 SONAR that amended the air pollution EAW category (2006 SONAR, page 7), an additional 5 EAWs per year would represent about an additional year's worth of staff costs to MPCA. (Note that these

costs to the MPCA would be far less if the amendment is adopted than if it is not, as described in section (6).)

The rule amendment would have an effect on state revenues because the fee charged by MPCA to an air permit applicant is increased by about \$20,000 if an EAW is required for the project under the air pollutant mandatory EAW category. Using the estimate of 5 additional EAWs per year and the \$20,000 fee increment for each project reviewed results in an estimate of about \$100,000 per year in increased state revenues.

“(3) a determination of whether there are less costly methods or less intrusive methods for achieving the purpose of the proposed rule”

The purpose of the proposed amendment is to require preparation of EAWs for large sources of GHG emissions without requiring review of too many smaller sources. The only straightforward method for doing that is to establish an appropriate mandatory threshold for GHGs.

“(4) a description of any alternative methods for achieving the purpose of the proposed rule that were seriously considered by the agency and the reasons why they were rejected in favor of the proposed rule”

There were two alternative methods of achieving the same results as the proposed rule considered by EQB. The first was to amend the rule to exclude GHGs from coverage by the air pollution category. That most likely would have been done by amending the category to state that it did not apply to GHGs, although it could have also been accomplished by defining “air pollutant” in a manner that excluded GHGs. The second alternative method considered was to set a different numerical threshold for GHGs.

The EQB rejected the first alternative because it believes that GHGs should be covered by the rules at some appropriate threshold. Greenhouse gas emissions are now recognized as contributing to important environmental impacts and it is therefore appropriate to bring under review through the Environmental Review program. With respect to the second alternative, the EQB decided to follow the precedent set for the existing air pollutant threshold, i.e., to set the threshold at the higher of EPA’s air permitting thresholds. For GHGs, that level is 100,000 tons per year. This threshold choice is described more fully in the Analysis of Proposed Rule section below.

“(5) the probable costs of complying with the proposed rule, including the portion of the total costs that will be borne by identifiable categories of affected parties, such as separate classes of governmental units, businesses, or individuals”

As described in section (1) above, the EQB anticipates that only a few new or expanding projects per year will exceed the proposed 100,000 tons threshold. In order to make cost estimates, EQB will use a figure of 5 such projects per year. This number probably overestimates the number of additional EAWs due to the GHG threshold because of the likely overlap of other existing categories as described in section (1). These projects are likely to be somewhat technically complex, which implies that the cost of these EAWs would be toward the high end of the range of EAW costs, so for these purposes EQB will use a cost range of \$25,000 to \$50,000 on average. Using these assumptions, the total likely cost of the proposed threshold is from \$250,000 to

\$500,000 per year. Most of this cost would be borne by the proposers of the projects. (Note that these costs will be far less if the amendment is adopted than if it is not, as described in the next section.)

“(6) the probable costs or consequences of not adopting the proposed rule, including those costs or consequences borne by identifiable categories of affected parties, such as separate classes of government units, businesses, or individuals”

If the proposed rule amendments are not adopted, there could be costs and consequences due to preparing EAWs that would not be mandatory if the amendments are adopted. This assumes that without an amendment to the subpart in question, GHG emissions would be subject to the existing 250 tons per year threshold. The result would be the potential need to prepare hundreds of additional EAWs every year. For example, estimates made by MPCA staff show that an office building of only about 8,000 square feet of floor space may generate over 250 tons per year of carbon dioxide from burning natural gas for heating. By comparison, under the commercial-industrial development mandatory EAW category, no office building of less than 100,000 square feet of floor space requires preparation of an EAW (and the threshold is even higher in most locations).

The EPA made an estimate as part of its rulemaking for GHGs that applying the 250 tons per year permitting threshold to new or expanding facilities would result in a 140-fold increase in permit applications per year. EQB records indicate that over the past decade that the annual average number of EAWs required at the 250 tons per year threshold is only about 2. However, applying the 140-fold increase factor gives an estimate that an additional 280 EAWs could be required per year if GHGs were covered by the 250 tons per year threshold. This compares to a typical annual average of 150 EAWs prepared for all types of projects by all RGUs. At a typical cost of \$5,000 to \$15,000, the total costs of those extra EAWs would equal \$1.4 to \$4.2 million. These additional costs would be borne largely by the proposers of the projects.

Also, the MPCA, as assigned RGU, would face added costs for preparing the additional EAWs. Based on estimates given by MPCA for the 2006 rule amendment process (2006 SONAR, page 7), each additional EAW could be expected to cost about \$9,400 in staff time. Multiplying by 280 additional EAWs results in an increase in staff costs of over \$2.6 million dollars, or about 42 additional staff.

“(7) an assessment of any differences between the proposed rule and existing federal regulations and a specific analysis of the need for and reasonableness of each difference”

It is possible for a given project to require review of its environmental impacts under requirements of the National Environmental Policy Act as well as the Minnesota Environmental Policy Act. The federal process prescribes environmental documents similar to state EAWs and EISs and uses processes similar in general outline although different in details to the Minnesota process under chapter 4410. Almost always, it is public projects such as highways, water resources projects, or wastewater collection and treatment that require such dual review. In the few cases where dual review is needed, specific provisions in the Environmental Review rules provide for joint state-federal review with one set of environmental documents to avoid duplication of effort. These

provisions are: part 4410.1300, which provides that a federal Environmental Assessment document can be directly substituted for a state EAW document and part 4410.3900, which provides for joint state and federal review in general. Neither of these provisions will be affected by the proposed amendments.

PERFORMANCE-BASED RULES

Minnesota Statutes, sections 14.002 and 14.131, require that the SONAR describe how the agency, in developing the rules, considered and implemented performance-based standards that emphasize superior achievement in meeting the agency's regulatory objectives and maximum flexibility for the regulated party and the agency in meeting those goals.

The present rulemaking does not alter the procedures of Environmental Review, but rather alters one of the thresholds at which review is required. Consequently, this rulemaking does not offer the opportunity for adopting performance-based rules or providing procedural flexibility. Furthermore, Environmental Review is not a regulatory program, and hence the EQB has no "regulatory objectives" in this rulemaking.

ADDITIONAL NOTICE

Minnesota Statutes, sections 14.131 and 14.23, require that the SONAR contain a description of the agency's efforts to provide additional notice to persons who may be affected by the proposed rules or explain why these efforts were not made. The EQB is using the following elements to provide additional notice in this rulemaking:

- Posting on the EQB Website. The rulemaking notices, the proposed rule amendments, and the SONAR will be posted at the EQB website.
- Publication of the rulemaking information in the *EQB Monitor*. The Monitor is a bi-weekly electronic publication of the EQB concerning events in the environmental review program and is routinely examined by many persons and organizations with a potential interest in environmental review activities.
- Press Release to Major Circulation Newspapers. We will send a press release about the rulemaking to newspapers throughout the state.

Our Notice Plan also includes giving notice required by statute. We will mail the rules and rulemaking notice to everyone who has registered to be on the EQB's rulemaking mailing list under Minnesota Statutes, section 14.14, subdivision 1a. We will also give notice to the Legislature per Minnesota Statutes, section 14.116.

Our Notice Plan did not include notifying the Commissioner of Agriculture because the rules do not affect farming operations per Minnesota Statutes, section 14.111. (However, because the present Chair of the EQB happens to also be the Commissioner of Agriculture, the Commissioner did receive notice of this rulemaking.)

CONSULTATION WITH MMB ON LOCAL GOVERNMENT IMPACT

As required by Minnesota Statutes, section 14.131, the EQB will consult with Minnesota Management and Budget (MMB)). We will do this by sending MMB copies of the documents that we send to the Governor's Office for review and approval on the same day we send them to the Governor's office. We will do this before the EQB's publishing the Notice of Intent to Adopt. The documents will include: the Governor's Office Proposed Rule and SONAR Form; the proposed rules; and the SONAR. The Department will submit a copy of the cover correspondence and any response received from Minnesota Management and Budget to OAH at the hearing or with the documents it submits for ALJ review.

DETERMINATION ABOUT RULES REQUIRING LOCAL IMPLEMENTATION

As required by Minnesota Statutes, section 14.128, subdivision 1, the Board has considered whether this proposed rule amendment will require a local government to adopt or amend any ordinance or other regulation in order to comply with these rules. The Board has determined that they will not, because only the state Pollution Control Agency will be required to perform any additional environmental review due to the amendment.

COST OF COMPLYING FOR SMALL BUSINESS OR CITY

As required by Minnesota Statutes, section 14.127, the Board has considered whether the cost of complying with the proposed rule amendment in the first year after the rules take effect will exceed \$25,000 for any small business or small city. The Board has determined that the cost of complying with the proposed rules in the first year after the rules take effect will not exceed \$25,000 for any small business or small city. The Board has made this determination based on the probable costs of complying with the proposed rule, as described in the Regulatory Analysis section of this SONAR.

LIST OF WITNESSES

If these rules go to a public hearing, the EQB anticipates that Mr. Jon Larsen and Mr. Gregg Downing, EQB staff, will testify in support of the need for and reasonableness of the rules. Also, the EQB anticipates that one or more MPCA staff familiar with environmental review and permitting of air emission projects will be available to help answer questions about the background for this rule amendment and about the relationship to air permitting.

ANALYSIS OF PROPOSED RULE AMENDMENT

The EQB proposes to amend Minnesota Rules, Part 4410.4300, Subpart 15, the mandatory EAW category captioned "air pollution" by dividing it into two items, A and B, in which item A would retain the current thresholds and continue to apply to air pollutants other than greenhouse gases and in which item B would establish a new, separate threshold to apply only to greenhouse gases (GHGs). The types of GHGs covered under the rule amendment are the same gases as now regulated under the federal Clean Air Act: carbon dioxide (CO₂); methane (CH₄); nitrous oxide (N₂O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); and sulfur hexafluoride (SF₆). The threshold proposed to apply to these GHGs is 100,000 tons per year of combined emissions of the six GHGs expressed as carbon dioxide equivalents (explained below).

Unless a new threshold for GHG emissions is adopted, arguably the existing threshold of 250 tons per year “of any single air pollutant” will apply to GHGs and a great number of projects would be required to prepare EAWs due to their GHG emissions. The vast majority of these cases would be due to carbon dioxide emissions from fuel combustion for heating or energy generation. For example, estimates made by MPCA staff show that an office building of only about 8,000 square feet of floor space may generate over 250 tons per year of carbon dioxide from burning natural gas for heating.

Using 250 tons per year as the EAW threshold for GHGs would create an unmanageable administrative burden on MPCA to prepare hundreds of additional EAWs, with very little environmental benefit. One possible option considered by EQB (and listed in the Request for Comments) was to amend the rule to declare that GHGs were not considered “air pollutants” and therefore not subject to this EAW category at all. However, that option would ignore the increasing concerns over human emissions of GHGs and their potential environmental impact. Now that GHGs are being brought into the regulatory fold under the Clean Air Act, it seems an appropriate time to establish an EAW threshold for GHGs.

To determine an appropriate threshold level for GHGs, the EQB used the same rationale as it has in the past to establish the existing air pollution EAW threshold. The existing threshold is set at the higher of the two basic emission levels used under the Clean Air Act to trigger permit requirements. Under the federal air permitting programs, new or expanding facilities can require permits if they have a potential to emit either 100 or 250 tons per year of a single air pollutant, depending on circumstances. Between 1982 and 2006, the air pollution EAW category used a threshold of 100 tons per year of any single air pollutant. In amendments adopted in 2006, the Board revised the threshold upwards to 250 tons per year. Thus, the EAW threshold has long been based on permitting thresholds under the Clean Air Act. Therefore, the Board believes it is reasonable to similarly choose a federal permitting threshold as the basis of a new EAW threshold specific to GHGs.

In its newly promulgated regulations (May 13, 2010) for GHG permitting (referred to as the “GHG tailoring rule”), the U.S. EPA sets two GHG emission levels at which permits will now be required: 75,000 and 100,000 tons per year of combined GHG emissions expressed as carbon dioxide equivalents. The 75,000 ton per year threshold will apply until June 30, 2011 only to facilities already requiring a Prevention of Significant Deterioration permit due to emissions of other than GHGs; if they exceed the 75,000 ton per year threshold they will be required to go through additional analysis of GHG emission controls. After June 30, 2011, expanding facilities that increase GHG emission by at least 75,000 tons per year will require PSD permits even if their increased emissions of other air pollutants would not otherwise require PSD review. The 100,000 ton per year threshold will apply to newly constructed projects with GHG emissions above that figure and to operating permits for existing facilities. Thus, the higher number, 100,000 tons per year, will be the more generally applicable permitting threshold for GHGs, at least for the early phases of the regulation of GHG under the Clean Air Act. (EPA indicates that it intends to further consider changes and that lower thresholds for certain facilities could be adopted in a few years.)

While the EQB could adopt a dual-tier threshold similar to EPA's system, the Board has chosen to adopt a simpler scheme using just one threshold, the more generally-applicable 100,000 tons per year threshold. Having multiple threshold makes the rule more complicated to apply and can lead to confusion. At this early stage of taking GHGs into account in environmental review, it does not seem beneficial to try to establish multiple thresholds. Perhaps as experience is gained and more data become available from EAWs prepared reasons for refining the threshold will become evident, in which case the threshold can be amended.

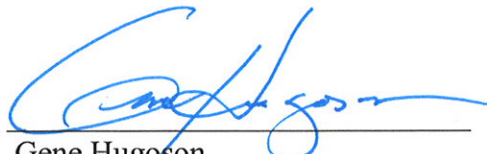
The proposed 100,000 tons per year threshold is intended to apply to the combined GHG emissions from a facility; i.e., if more than one type of GHG is emitted, the total quantity must be considered. However, before adding the quantities of each GHG together, the amendment will require each to be converted into its "carbon dioxide equivalent." This refers to a way to take into account the fact that different GHGs have differing capacities to heat the atmosphere due to their chemical differences. E.g., a molecule of sulfur hexafluoride has almost 23,000 times the effect as a molecule of carbon dioxide. For each GHG there is a factor like this to use to multiply the raw tons of gas emitted to get its equivalent mass of carbon dioxide. To apply the 100,000 ton per year threshold, for each GHG emitted the actual number of tons emitted is multiplied by its carbon dioxide equivalence factor, then the equivalent tons are added and compared to 100,000. The equivalence factors are taken from values published by the U.S. EPA.

An additional complication is that the tons of each GHG to be emitted must be determined as the "potential to emit," rather than the actual number expected to be emitted. The difference is that under the potential to emit concept, it is assumed that the emitting source is run at 100% capacity all the time ("24/7"). This may or may not be how it will be operated in practice, but this is the method used by EPA and MPCA to determine whether permit thresholds are exceeded. As the rule states, it is assumed also that the designed in pollution control equipment is operating when the potential to emit is calculated. These assumptions are used in applying the existing 250 tons per year emission threshold under the current rule; it is proposed that the GHG emissions be treated in the same way.

CONCLUSION

Based on the foregoing, the proposed rules are both needed and reasonable.

12-6-10



Gene Hugoson
Chair

