Minnesota Pollution Control Agency

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November 27, 2013

Legislative Reference Library
645 State Office Building
100 Constitution Avenue
St. Paul, Minnesota 55155

Re: In the Matter of the Proposed Rules of the Minnesota Pollution Control Agency Governing Mercury Air Emissions Reporting and Reduction; Revisor's ID Number 4149

Dear Librarian:

The Minnesota Pollution Control Agency (MPCA) intends to adopt rules governing mercury air emissions reporting and reduction, *Minnesota Rules*, Chapter 7005 Definitions and Abbreviations, Chapter 7007 Permits and Offsets, Chapter 7011 Standards for Stationary Sources, and Chapter 7019 Emission Inventory Requirements. The MPCA plans to publish "Notice of Intent to Adopt Rules Without a Public Hearing Unless 25 or More Persons Request a Hearing, and Notice of Hearing if 25 or More Requests for Hearing Are Received" (Dual Notice) in the December 2, 2013, State Register.

The MPCA has prepared a Statement of Need and Reasonableness (SONAR). As required Minnesota Statutes, sections 14.131 and 14.23, the MPCA is sending the Library an electronic copy of the SONAR at the same time we are mailing our Dual Notice.

If you have questions, please contact me at 651-757-2439.

Sincerely,

Mary H. Lynn
Rule Coordinator
Environment & Energy Section
Resource Management & Assistance Division

Enclosure: Statement of Need and Reasonableness

Minnesota Pollution Control Agency

STATEMENT OF NEED AND REASONABLENESS

Proposed Amendments to Rules Relating to Air Emissions Permits,
Minnesota Rules Chapter 7005, 7007, 7011 and 7019

Table of Contents

I. LIST OF FREQUENTLY USED CITATIONS, ABBREVIATIONS AND ACRONYMS:

40 CFR 70 or Part 70	Code of Federal Regulations, title 40, Part 70	MPCA	Minnesota Pollution Control Agency
ACI	activated carbon injection	MACT	Maximum Achievable Control Technology
Agency	Minnesota Pollution Control Agency	MATS	Mercury and Air Toxics Standards
ASTM	American Society for Testing and Materials	MERA	Mercury Emissions Reduction Act
CAA	Clean Air Act	Minn. Stat. ch.	Minnesota Statutes chapter or section
CO_2	carbon dioxide	MOA	memorandum of agreement
CEMS	continuous emissions monitoring system	MWCs	municipal waste combustors
Chapter 7005	Minnesota Rules chapter 7005	NACAA	National Association of Clean Air Agencies
Chapter 7007	Minnesota Rules chapter 7007	NSPS	New Source Performance Standard
Chapter 7011	Minnesota Rules chapter 7011	NESHAP	National Emission Standard for Hazardous Air Pollutants
Chapter 7019	Minnesota Rules chapter 7019	NO_x	nitrogen oxides
CISWI	commercial or industrial solid waste incinerator	NPDES	National Pollutant Discharge Elimination System
Commissioner	Minnesota Pollution Control Agency, Commissioner	PBT	persistent bioaccumulative toxic
EAF	electric arc furnace	QA/QC	quality assurance/quality control
ECOS	Environmental Council of States	RATA	relative accuracy test audit
EGUs	electric generating units	SO_2	sulfur dioxide
EPA	United States Environmental Protection Agency	SONAR	Statement of Need and Reasonableness
FR or Fed. Reg.	Federal Register	SSI	sewage sludge incinerator
GLBTS	Great Lakes Binational Toxics Strategy	tpy	tons per year
HAP	hazardous air pollutant	TMDL	Total Maximum Daily Load
ICI	industrial, commercial, and institutional	Title V	Clean Air Act Amendments of 1990, Title V
IMERC	Interstate Mercury Education and Reduction Clearinghouse	TRI	Toxic Release Inventory
lb/Tbtu	pounds per trillion British thermal units		
lb/yr	pounds per year		
LaMP	Lakewide Management Plan		
LEE	low emitting EGU		
LGU	local government unit		
MMB	Minnesota Management & Budget		

II. INTRODUCTION

The Minnesota Pollution Control Agency (MPCA) is proposing amendments to Minnesota Rules Chapters 7005, 7007, 7011, and 7019. These proposed amendments will establish requirements for certain sources of mercury air emissions to bring the facilities into line with statewide mercury reduction goals. This proposal arises from the Implementation Plan for Minnesota's Statewide Mercury Total Maximum Daily Load (TMDL) Study, which established the mercury reductions needed from air emission sources. To accomplish these reductions, the rule contains several components, as follows.

- The proposed rules will incorporate several federal rules by reference, because the rules regulate mercury emissions.
- The proposed rules incorporate by reference other federal rules regulating air pollution. For the MPCA to maintain Minnesota's approval to administer federal performance standards, the federal rules must be incorporated into state law.
- The proposed rules also establish requirements for mercury air emissions sources that are not already subject to federal standards to reduce their atmospheric contributions of mercury.
- The proposed rules will make mercury emission sources subject to compliance demonstrations, recordkeeping and reporting of mercury to determine achievement of the statewide mercury TMDL.

III. BACKGROUND

Mercury is a potent neurotoxin. The primary source of mercury in humans is from fish consumption. Eating fish contaminated with mercury can damage the central nervous system. Children and fetuses are especially vulnerable because their nervous systems are still developing. The federal Clean Water Act requires each state to evaluate its water bodies and determine whether they meet water quality standards. For mercury, these standards define how much mercury can be in the water and in fish. Water bodies that do not meet water quality standards are added to a list of water bodies referred to as the Impaired Waters List. Minnesota's 2008 Impaired Waters List included over 1,200 lakes or river segments impaired by mercury. Mercury in fish tissue has led the Minnesota Department of Health, Minnesota Department of Natural Resources, and the MPCA to collaborate to produce fish consumption guidelines (Attachment 1). These guidelines provide consumers of fish with information regarding the levels of contaminants found in Minnesota fish along with guidelines for safe eating of both locally and commercially available fish.

A. Overview of the Clean Water Act and Total Maximum Daily Load Studies

The MPCA administers federal regulations to maintain and improve water quality. To address impaired waters, states are required to evaluate the sources of pollution, the reduction in the pollutant needed to meet water quality standards, and allowable levels of future discharges. This evaluation, typically done for each water body or watershed, is called a Total Maximum Daily Load study, or TMDL.

The federal Clean Water Act governs water quality standards and implementation plans and states, in part:

> *(C) Each State shall establish for the waters identified in paragraph (1)(A) of this subsection, and in accordance with the priority ranking, the total maximum daily load, for those pollutants which the Administrator identifies under section 1314 (a)(2) of this*

title as suitable for such calculation. Such load shall be established at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality."

33 USC § 1313 (d)(C). The MPCA fulfilled its obligation under Title 33 to assess mercury in surface waters when it developed a TMDL for mercury-impaired waters. The United States Environmental Protection Agency (EPA) approved Minnesota's Statewide Mercury TMDL Study (Attachment 2) in March, 2007. Minnesota's Statewide Mercury TMDL Study was the first in the nation, and has provided a model for other states in its approach. The mercury TMDL study identified the need to control not only direct discharges to surface waters (such as from wastewater treatment facilities) but also air emissions which contribute to the impairment of Minnesota's lakes and streams through deposition of air-borne mercury to surface waters. The mercury TMDL covers a total of 998 waters throughout the state, which includes 671 lakes and 327 river segments.

The TMDL identifies that 99 percent of the mercury contaminating surface water results from air deposition. Most of that mercury is generated by sources outside of Minnesota. However, sources within Minnesota contribute mercury to the air. Therefore, the TMDL established an air emission goal of no more than 789 pounds per year (lb/yr) of mercury emissions by 2025 for sources within Minnesota.

The TMDL determined that human-caused, air-deposited mercury must be reduced by 93 percent from 1990 levels to meet water quality standards. Applying this reduction to air emission sources in the state resulted in a goal level of 789 lb/yr of air emissions. The TMDL also established a cap on mercury in wastewater discharges in the state of 24 lb/yr. The strategies in the TMDL are intended to result in fish in surface waters meeting the statewide fish-tissue criterion of 0.2 milligrams of mercury per kilogram. For more information on sources of loading and estimated load reductions needed to reduce impairments, refer to the Minnesota Statewide Mercury TMDL study.

Once a TMDL is approved by the EPA, states are responsible for implementing measures to achieve the goals established in the TMDL[1]. This proposed rule is one part of the MPCA's approach for achieving the goals of Minnesota's Statewide Mercury TMDL Study, specifically for air emission sources. This rule is based on the Implementation Plan for the Minnesota Statewide Mercury TMDL Study (Attachment 3), which consists of strategies to ensure that water discharges remain below 24 lb/yr and to reduce air emissions to no more than 789 lb/yr.

For some industrial sectors of Minnesota, the TMDL Implementation Plan relies on reduction plans to meet the TMDL target. To carry this proposal forward and make the plan enforceable, the MPCA proposes to adopt new rules to address certain sources of air emissions of mercury. The rules detail which sources will submit a plan and what the plan must include. Where existing information from the EPA or other states indicate that there are best practices or standards already existing, the rules will specify performance standards.

[1] US EPA. Guidance for Water Quality-Based Decisions: The TMDL Process. Office of Water. EPA 440/4-91-001 April, 1991. http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/dec3.cfm

Minnesota initiated mercury reduction efforts in 1999 with Minnesota Statutes section 116.915 (Minn. Stat. § 116.915). These efforts were largely voluntary and set the following goals for reduction:

- 60 percent reduction from 1990 levels by December 31, 2000
- 70 percent reduction from 1990 levels by December 31, 2005

The TMDL bridges the gap between these statutory goals and the continued reductions needed to address mercury contamination in fish that created the impaired waters listings. The EPA has approved Minnesota's mercury TMDL, making Minnesota responsible for implementing measures to achieve the goals established in the TMDL.

To develop the key elements of the TMDL Implementation Plan, the MPCA called on stakeholders to recommend source-specific reductions, strategies to meet the reductions, and interim and final timeframes for achieving the mercury reductions. A stakeholder workgroup, consisting of 17 members, developed the Implementation Plan details, meeting once or twice a month for 12 months, ending in June 2008[2]. Members of the stakeholder group included representatives of taconite industry, electric and wastewater utilities, environmental groups, environmental justice advocates, municipalities and state environmental and natural resource agencies. A larger Partners Group of approximately 75 members met twice to review and comment on the stakeholder's recommendations.

The stakeholders presented recommendations in their report, *Strategy Framework for Implementing Minnesota's Statewide Mercury TMDL*. The Strategy has been incorporated into the MPCA's overarching Implementation Plan for the Mercury TMDL. The TMDL Implementation Plan, and specifically the Strategy Framework, has guided the development of this proposed rule. Many of the provisions or requirements of this rule are direct outgrowths of the stakeholder recommendations.

TMDL's are required under the Clean Water Act to address impaired waters; EPA will prepare TMDLs if states fail to act. To achieve the goals established in the TMDL, states incorporate the approved TMDL into their Water Quality Management plans and National Pollutant Discharge Elimination System (NPDES) permits (40 CFR § 130.7). The MPCA is authorized and delegated by EPA to administer the federal NPDES program in Minnesota. In the absence of a plan to implement the TMDL and achieve water quality improvements, the MPCA could risk sanctions on its NPDES program by EPA.

The TMDL baseline year is 2005. The reference to a baseline year of 1990 in the Implementation Plan was intended to link the additional reductions sought in the TMDL to the original statutory mercury reduction goals.

The final TMDL goal is not a percent reduction but an annual limit expressed in pounds per year. This limit conforms to the principles in the TMDL and avoids potential issues with a statewide reduction expressed as a percentage, for example, maintaining the correct baseline year and the baseline changing as our understanding and accounting changes.

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[2]Minnesota Environmental Initiative. Report on the Mercury TMDL Implementation Plan Stakeholder Process. July 7, 2008. http://www.pca.state.mn.us/index.php/view-document.html?gid=11493

The MPCA has previously engaged sources in a number of voluntary efforts to reduce mercury air emissions (see Section VI.4). Those efforts have not resulted in enough progress towards reductions needed to meet the TMDL statewide goal of 789 lb/yr or less by 2025. Without progress in meeting the TMDL, Minnesota's contribution of mercury to contaminated fish remains unabated. Therefore, the MPCA believes it is necessary to move to the next step of taking a more formal approach to reducing mercury air emissions through rulemaking.

B. Overview of Air Emission Regulations

Under the Clean Air Act (CAA) (CAA; 42 USC § 7401 – 7671q), air emission permitting authorities issue air emission permits to large stationary sources of air pollutants. Construction permits authorize the construction or modification of air emission sources. Operating permits impose conditions for the ongoing operation of a source. Under the CAA, owners and operators of stationary sources must obtain these federal permits if the source's potential to emit specified pollutants exceeds established emission thresholds. The CAA requires federal permits, rather than state-only permits, if potential emissions of any one of these pollutants exceed 100 or 250 tons per year (tpy), depending on the type of source.

The state of Minnesota is delegated by EPA to implement the construction permit program. This means that the federal rules apply directly to sources in the state without the need for state rules. The operating permit program, in contrast, is implemented in Minnesota through state rules. The requirements of the MPCA's air operating permit program are in Minnesota Rules chapter 7007 (chapter 7007).

Other MPCA rules define the controls and emission limits which owners or operators must adhere to for certain types of equipment. These rules are called performance standards and are set forth in chapter 7011. Chapter 7011 contains both federal performance standards, which the MPCA adopts by reference, and state-specific standards.

As part of the air permit program, states are required to have an inventory of actual emissions from regulated stationary sources. In Minnesota, the procedures governing this inventory are in chapter 7017. The testing and calculation methods that can be used to develop the data for the emission inventory are in chapter 7019.

IV. PUBLIC PARTICIPATION AND STAKEHOLDER INVOLVEMENT IN THE RULE PROCESS

The MPCA took the following steps to develop the draft rules, notify interested parties about the draft rules, and to solicit their input on draft rule language:

A. The development of the statewide mercury TMDL process included a variety of opportunities for public participation. The MPCA met with key stakeholders throughout the development of the regional mercury TMDLs, including a Strategy Work Group, a technical advisory group, the EPA Region V and the EPA headquarters. The draft mercury TMDL was placed on public notice and made available on the MPCA TMDL webpage. A series of public meetings on the draft TMDL were held across the state, and the 90-day formal public comment period ended on October 18, 2005. The final Minnesota Statewide Mercury TMDL was approved by EPA on March 27, 2007.

B. The MPCA published public notice of a Request for Comments on the planned new air quality rules governing mercury emissions in the *State Register* on July 27, 2009, and placed a copy of the notice on the Agency public notice webpage.
C. The MPCA launched a specific mercury rule webpage on May 19, 2010.
D. The MPCA staff conducted research about the rule concept and requested input on preliminary draft rule language at a stakeholder meeting with the TMDL Implementation Workgroup on November 30, 2010.
E. The MPCA staff conducted additional research by e-mail for the electric utility generating sector and met with representatives of this sector in January and July, 2012.
F. The MPCA staff met to discuss the sector specific rule language with the iron and steel sector on February 29, 2012, the taconite sector on March 7, 2012, and the mercury recycling sector on April 16, 2012.
G. The MPCA initiated use of an electronic notification system (GovDelivery) on February 10, 2012, to send electronic bulletins regarding information relevant to this rulemaking, and all Agency rulemaking and notices.
H. Preliminary draft rule language was posted on the MPCA's mercury rule webpage on July 20, 2012, to provide the TMDL stakeholders and any other interested party the opportunity to consider the MPCA's approach and provide input on the preliminary draft rule prior to the formal public notice period.
I. The MPCA staff held a stakeholder meeting on July 31, 2012, to discuss the preliminary draft rule and to solicit input and informal comment on draft rule language prior to the formal public notice period.
J. The MPCA held follow-up discussions with affected sectors including the mercury recycling sector on August 14 and 16, 2012 and October 1, 2012, and the iron and steel sector in February and April, 2012.
K. The MPCA also contacted non-industry interested parties by telephone and e-mail including the Izaak Walton League of America and the Minnesota Center for Environmental Advocacy on November 9, 2012.
L. The MPCA staff met with the TMDL Implementation Work Group at their annual meeting on November 8, 2011, and December 6, 2012.
M. Additional preliminary draft rule language for industrial, commercial, and institutional (or ICI) boilers was posted on the MPCA's mercury rule webpage on March 14, 2013. Electronic notification was sent via GovDelivery on March 14, 2013, to notify the TMDL stakeholder group and other interested parties of the opportunity to consider the MPCA's approach and provide input on the preliminary draft language prior to the formal public notice period.
N. The MPCA had discussions with affected sectors prior to posting the preliminary draft rule language for ICI boilers on the mercury rule webpage.
O. The MPCA staff had numerous phone conversations with stakeholders and answered questions on rulemaking status when asked.
P. The MPCA staff met with tribal environmental representatives at the MN Technical Tribal Meeting on July 24, 2013, in Cass Lake, MN, to provide an overview of the MN Statewide Mercury TMDL, statewide mercury reduction efforts, and the draft mercury rules.
Q. The MPCA met with Chamber of Commerce on July 25, 2013, to provide an overview of the MN Statewide Mercury TMDL, and the draft mercury rules, specifically the power sector rules.
R. The MPCA staff met on July 29, 2013, with new representatives of the Minnesota Center for Environmental Advocacy and Isaac Walton League, the environmental groups represented on the TMDL stakeholder group, to provide a brief overview of the MN Statewide Mercury TMDL, statewide mercury reduction efforts, and the draft mercury rules.

V. ALTERNATIVE FORMAT

Upon request, this information can be made available in an alternative format, such as large print, Braille, or audio. To make a request, contact Mary H. Lynn at 651-757-2439. TTY users may call the Minnesota Pollution Control Agency at 651-282-5332 or 800 657-3864.

VI. STATUTORY AUTHORITY

The MPCA relies on the statutory authority provided by Minn. Stat. § 116.07, subd 4(a) to adopt these rules:

> *Pursuant and subject to the provisions of chapter 14, and the provisions hereof, the Pollution Control Agency may adopt, amend and rescind rules and standards having the force of law relating to any purpose within the provisions of Laws 1967, chapter 882, for the prevention, abatement, or control of air pollution. Any such rule or standard may be of general application throughout the state, or may be limited as to times, places, circumstances, or conditions in order to make due allowance for variations therein. Without limitation, rules or standards may relate to sources or emissions of air contamination or air pollution, to the quality or composition of such emissions, or to the quality of or composition of the ambient air or outdoor atmosphere or to any other matter relevant to the prevention, abatement, or control of air pollution.*

The MPCA is also directed to address negative impacts on air and water quality, as described in Minn. Stat. §§ 116D.01 and 116D.02.

116D.01 PURPOSE.

> The purposes of Laws 1973, chapter 412, are: (a) to declare a state policy that will encourage productive and enjoyable harmony between human beings and their environment; (b) to promote efforts that will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of human beings; and (c) to enrich the understanding of the ecological systems and natural resources important to the state and to the nation.

116D.02 DECLARATION OF STATE ENVIRONMENTAL POLICY.

Subd. 2. State responsibilities. In order to carry out the policy set forth in Laws 1973, chapter 412, it is the continuing responsibility of the state government to use all practicable means, consistent with other essential considerations of state policy, to improve and coordinate state plans, functions, programs and resources to the end that the state may:...

> (16) reduce the deleterious impact on air and water quality from all sources, . . .;

Mercury emissions are a worldwide phenomenon. Airborne mercury is transported across the globe from its source. Minnesota's proposal to address air emissions from sources within the state addresses its contribution to this issue. Minn. Stat. § 116D.03, Action By State Agencies, provides guidance that the MPCA and other agencies should work to address the worldwide and long range nature of the problems.

Subd. 2. Duties. All departments and agencies of the state government shall:

(5) recognize the worldwide and long range character of environmental problems and, where consistent with the policy of the state, lend appropriate support to initiatives, resolutions, and programs designed to maximize interstate, national and international cooperation in anticipating and preventing a decline in the quality of the world environment;...

In addition to the statutory requirements, Minnesota Rules chapter 7050, Waters of the State, specifies a level of protection for surface waters, including protection of human consumers of fish.

7050.0217 OBJECTIVES FOR PROTECTION OF SURFACE WATERS FROM TOXIC POLLUTANTS.

Subp. 2. Objectives. Protection of the aquatic community from the toxic effects of pollutants means the protection of no less than 95 percent of all the species in any aquatic community. Greater protection may be applied to a community if economically, recreationally, or ecologically important species are very sensitive.

Protection of human consumers of fish, other edible aquatic organisms, and water for drinking from surface waters means that exposure from noncarcinogenic chemicals shall be below levels expected to produce known adverse effects; and the incremental cancer risk from exposure to carcinogenic chemicals, singly or in mixtures, shall not exceed one in 100,000. The combined risk from mixtures of carcinogens will be determined as described in part 7050.0222, subpart 7, item D.

Protection of wildlife that eat aquatic organisms means the protection of the most sensitive wildlife species or populations. Greater protection may be applied if the exposed animals include endangered or threatened wildlife species listed in chapter 6134, or in Code of Federal Regulations, title 50, part 17, under the Endangered Species Act of 1973, United States Code, title 16, sections 1531 to 1543.

VII. STATEMENT OF NEED FOR THE PROPOSED RULES

Minn. Stat. ch. 14 requires the MPCA to make an affirmative presentation of facts establishing the need for and reasonableness of the rules as proposed. In general terms, this means that the MPCA must not be arbitrary or capricious in proposing rules. However, to the extent that need and reasonableness are separate, "need" has come to mean that a problem exists that requires administrative attention, and "reasonableness" means that the solution proposed by the MPCA is appropriate. The basis of the need for this rule is described here; reasonableness is addressed in Sections XVIII and XIX.

Need for the Proposed Rule Amendments as a Whole

The MPCA is proposing amendments to Minnesota Rules chapters 7005, 7007, 7011, and 7019 to incorporate requirements for sources of mercury air emissions. The desired outcome is to make Minnesota's fish safe to eat and allow state-wide fish consumption advisories relating to mercury to be removed. This proposal arises from mercury reduction targets for air emission sources that were established in the TMDL Implementation Plan. To meet water quality standards, the TMDL determined that human-caused, air-deposited mercury would need to be reduced by 93 percent from 1990 levels. Now that Minnesota's Mercury TMDL has been approved by the EPA, Minnesota is responsible for implementing measures to achieve the goals established in the TMDL. This proposed rule is one part of

the plan for achieving the goals of Minnesota's Statewide Mercury TMDL, specifically for air emission sources. This rule is based on the Mercury TMDL Implementation Plan, which consists of strategies to ensure that water discharges remain below 24 lb/yr and air emissions below 789 lb/yr.

The MPCA proposes to address certain sources of air emissions of mercury using this new rule. The MPCA has previously engaged sources in a number of voluntary efforts to reduce mercury air emissions (see Section VI.4). Those efforts have not resulted in enough reductions to meet the TMDL statewide goal of 789 lb/yr or less. Without a plan to achieve the water quality improvements identified as necessary in the mercury TMDL, the MPCA risks EPA sanctions on its water and air programs. Therefore, it is necessary to move to the next step of taking a more formal approach through regulation.

Federal Standards of Performance

The Clean Air Act Section 111(c) requires performance standards (New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP)) for source categories that have significant air pollution impacts. Additionally, under this section, states may accept delegation to implement and enforce these standards. Minnesota has accepted delegation for federal NSPS and NESHAP regulations and incorporates them by reference in chapter 7011. These NSPS and NESHAP regulate emissions of mercury. The MPCA proposes in this rulemaking to incorporate six NSPS regulations and one NESHAP regulation in the same way as it has for previously promulgated NSPS and NESHAP regulations. Adoption and incorporation by reference of NSPS and NESHAP standards is necessary for the MPCA to implement and enforce the federal standards. The MPCA's failure to adopt the NSPS and NESHAP regulations could result in the EPA objecting to Minnesota's air program.

VIII. REASONABLENESS OF THE PROPOSED RULE AMENDMENTS AS A WHOLE

Minn. Stat. ch. 14 requires the MPCA to explain the facts establishing the reasonableness of the proposed rule amendments. "Reasonableness" means that there is a rational basis for MPCA's proposed action.

The requirements of the Clean Water Act for TMDLs do not set a specific timeframe for achieving TMDLs. The timelines are determined as Implementation Plans are crafted to achieve the TMDL goals. Through the TMDL stakeholder process, the MPCA developed an Implementation Plan with the year 2025 as the final deadline to achieve the TMDL emission level of 789 lb/yr or less from all air emission sources of mercury in Minnesota. The mid-term year 2018 was selected for a check on the progress of sources in making mercury emission reductions, and through the stakeholder process, some sources were given earlier reduction deadlines than others.

These deadlines and milestones create a timetable for the MPCA and affected facilities to secure mercury reductions, and one that the MPCA believes is workable. The deadlines set up reasonable timeframes for the research, engineering, financing, construction and operation of mercury reduction controls.

The TMDL Implementation Plan addresses source categories and sectors. However, actual reductions happen on a facility-by-facility basis. For some emitting facilities, controlling mercury may be of inconsequential effort, but for others, there is effort and expense. These differences mean that without rules directing a process for making those reductions, as past voluntary efforts outlined earlier have shown, few if any sources make the changes necessary to reduce mercury emissions. To reduce mercury emissions and thus improve Minnesota lakes and streams, so that eventually fish caught in Minnesota

are safe to eat and mercury advisories may be removed, rules are needed to implement reductions for individual facilities. It is reasonable for the MPCA to use a rule for the purposes of addressing air emissions of a pollutant of concern. The MPCA addresses air pollutants, including toxics, through permitting rules, performance standards, testing requirements and reporting requirements. The federal rules that require mercury reductions and the Minnesota rule together address the primary source of mercury in Minnesota.

The MPCA proposes to limit the scope of this rule. The rule will only address sources that do not have an existing federal or state requirement that controls or limits mercury at a level comparable to the TMDL reduction target. The EPA has already or is in the process of regulating some of the affected sectors. This rule will incorporate certain of these federal regulations by reference. Minnesota statutes address mercury from electric utility boilers. In light of existing laws and rules, the MPCA believes it is reasonable to address only those sources that are not regulated or proposed to be regulated by the federal or state requirements with a state rule that incorporates the strategies in the TMDL Implementation Plan.

IX. RULE-BY-RULE ANALYSIS: STATEMENT OF REASONABLENESS FOR THE PROPOSED RULES.

The chapters of Minnesota's rules that will be amended in this permanent rulemaking are chapters 7005 (Definitions and Abbreviations), 7007 (Air Permitting), 7011 (Standards for Stationary Sources), and 7019 (Emission Inventory Requirements). The reasonableness of each proposed rule amendment is provided as follows.

1) CHAPTER 7005 DEFINITIONS AND ABBREVIATIONS

Chapter 7005 provides the MPCA definitions and abbreviations for the air program. Definitions placed in part 7005.0100 have been designated as applying to all rules related to air pollution control or air quality. New terms and definitions in this rulemaking are proposed to be included in this part to continue general applicability in the air quality program.

PART 7005.0100 DEFINITIONS.

Subparts 3c, 3d, and 3e. Mercury emissions result from burning coal. The MPCA proposed to add coal and two coal-related definitions to this rule. The definitions proposed here are taken from chapter 7011 because the definitions have wider applicability than only within the conditions of chapter 7011. It is reasonable to add these definitions because several substantive aspects of the proposed rule use these terms and affected owners and operators need to know what they mean.

Subp. 3c. **Coal.** A new subpart 3c adds the term "coal" to the chapter 7005 definitions. "Coal" is a term that is widely used in air permitting. Limiting this term to apply to chapter 7011 is unnecessary. It is reasonable to define this term in chapter 7005 because this chapter is the location for general definitions for the entire air permit program.

Subp. 3d. **Coal-derived fuel.** A new subpart 3d defines the term "coal-derived fuel." "Coal-derived fuel" can be produced in various ways. Therefore, the MPCA has specified what it considers to fall under the term "coal-derived fuel" in these rules. It is reasonable to define the material clearly and in chapter 7005 so affected owners and operators understand what is being regulated.

Subp. 3e. **Coal-fired.** A new subpart 3e defines the term "coal-fired." "Coal-fired" units can have varying percentages of coal in the fuel mix. Therefore, the MPCA has specified what it considers to fall under the term "coal-fired" for regulatory purposes in these rules. It is reasonable to define the material clearly and in chapter 7005 so affected owners and operators understand what is being regulated.

Subp. 7a. **Control efficiency.** A new subpart 7a adds the term "control efficiency" to the chapter 7005 definitions. "Control efficiency" is a term that is widely used in air permitting. Limiting this term to apply to chapter 7011 is unnecessary. It is reasonable to define this term in chapter 7005 because this chapter is the location for general definitions for the air permit program.

Subp. 23a. **Mercury.** A new subpart 23a defines the term "mercury." Because the element mercury is present in many chemicals and can occur in several forms, the MPCA has specified what it considers to fall under the general term "mercury" in these rules. The term "mercury" is used in several chapters of the rules. Therefore, the MPCA proposes to place this definition in chapter 7005 with other widely-used terms. It is reasonable to define the pollutant clearly so affected owners and operators understand what is being regulated.

Subp. 23b. **Mercury emission source.** A new subpart 23b defines the term "mercury emission source." The MPCA is proposing to define a "mercury emissions source" as a stationary source that emits three lb/yr or more of mercury, after taking into account any air pollution controls in place at an emissions source that might capture mercury before it is released to the atmosphere. The TMDL process identified the industry sectors that contribute air emissions of mercury in the state. In this rulemaking, the MPCA proposes to prioritize addressing the individual contributors of three lb/yr or more of mercury emissions as identified through the TMDL process.

When making decisions on how to control mercury emissions, it is necessary to understand which specific sources will be included. It is useful to use one common phrase to describe this type of emitting source. In the current air quality regulatory program, the terms "emissions unit" and "emissions source" are already in use, and confusion develops if we attempt to use either term. Rather than writing out both terms, MPCA proposes one single phrase to designate what emitting unit, source or facility will be regulated with this rule. The term "mercury emission source" is proposed for use in several existing chapters of the rules. Therefore, the MPCA proposes to place this definition in chapter 7005 with other widely-used terms.

Facilities currently submit a mercury emission inventory to the MPCA. For a facility to accurately report mercury emissions, a number of specific pieces of information are necessary. Many estimates of mercury emissions are based on the use of emission factors, not on measurement of actual conditions. Emission factors are best estimates from some or many similar sources, and are often used in air quality programming to prepare emissions estimates when writing permits. Most mercury emission factors are of poor quality because few data points were available to create the emission factors. It will take efforts like sampling fuel or materials in use at a manufacturing facility, or conducting an initial test of stack emissions to determine whether the air pollution controls are removing mercury released from the process, to improve emission factors and thus emission estimates. In order to minimize the number of sources subject to this type of additional effort, the MPCA believes that it is important to establish a threshold for determining which source is a "mercury emissions source".

Minnesota Statute 116.925 requires electric utilities to report annual mercury emissions to the MPCA, with a threshold for combustion units with documented mercury emissions of three lb/yr or less. Because utilities have been reporting emissions under this statute to the MPCA since the statute was

enacted in 1997, the MPCA evaluated the usefulness of a three pound threshold for all other sources of mercury emissions in Minnesota.

Mercury as a persistent bioaccumulative toxic (PBT) is toxic at very low levels in the environment to humans and wildlife. Analytical methods and equipment used to measure mercury in environmental samples are capable of detecting mercury at very low levels. Given these considerations, it is important to consider the precision of the estimate of annual mercury releases from air emission sources.

Because some of the facilities affected by this rule are reporting annual mercury mass releases to EPA's Toxic Release Inventory (TRI), the MPCA reviewed the TRI's requirements when reporting PBTs. Overall, TRI releases are reported to two significant digits, and for mercury, sources releasing greater than 0.1 pounds per year are required to report emissions. The MPCA believes that to address environmental problems of mercury in Minnesota, it is most useful to inventory mercury emissions to one decimal point. This treatment of data and resulting calculations reflects the general precision of the data available to estimate annual emissions for affected sources.

The MPCA evaluated the number of sources with mercury emissions and the amount reported to the triennial national air toxics assessment. www.epa.gov/ttn/atw/natamain/. In the 2005 air toxics inventory, Minnesota estimated mercury emissions for 146 point sources. Thirty emission sources emitted more than 3.0 lb/yr, and accounted for 99 percent of the total estimated mercury emissions statewide.

Inventoried Point Sources of all emissions	**"Actual" annual emissions of category Calendar Year 2005, lbs**	**Cumulative total emissions, lbs**	**Percent**
number of sources greater than 0.0 lb/yr	146	3,011	
number of sources greater than 1.0 lb/yr	98	2,997	99.5
number of sources greater than 2.0 lb/yr	36	2,985	99.1
number of sources greater than 3.0 lb/yr	30	2,981	99
number of sources greater than 5.0 lb/yr	25	2,951	98
number of sources greater than 10.0 lb/yr	14	2,869	95.3
number of sources greater than 25.0 lb/yr	9	2,790	92.7

Because nearly all the mercury emitted comes from sources emitting more than three lb/yr, the MPCA believes it is therefore reasonable to use three lb/yr as a threshold for determining if a source is a "mercury emissions source".

2) CHAPTER 7007 PERMITS AND OFFSETS

Chapter 7007 applies to the issuance of air emission permits. These permits include construction, modification and operating permits. This chapter includes rules to implement the federal Part 70 operating permit program and rules for Minnesota's state-only permits. These rules include, among other items, due dates for applications and reports, the content of permit applications, notice and review procedures, permit content, and compliance demonstrations. Additional parts of chapter 7007 address permits for Prevention of Significant Deterioration/New Source Review sources according to 40 CFR 52.21 and sources of HAPs under section 112(g) of the CAA.

PART 7007.0502 MERCURY EMISSIONS REDUCTION PLANS.

The TMDL stakeholder team proposed that various mercury-emitting industrial facilities in Minnesota would achieve mercury reductions through submitting a facility-specific mercury emissions reduction plan to the MPCA. This proposed part describes which air emission sources must submit a mercury reduction plan for Commissioner approval. After approval, sources are required to implement the plan that reduces the amount of mercury they emit into the air. The plan explains how the facility would achieve the mercury reduction, detailing control technologies, operational changes or prevention strategies the facility will evaluate to reduce mercury emissions.

To date, the TMDL Implementation Plan has not been an enforceable air quality document. This rule is necessary to provide a mechanism for the MPCA to address its obligations to the EPA and achieve the mercury reductions identified in the TMDL which will lead to reductions in mercury in Minnesota's fish.

The requirement for a mercury emissions reduction plan is not defined as an "applicable requirement", as defined in Minn. R. 7007.0100, subp. 7, which means "applicable" under federal law. The requirements of the proposed rules will be state-only requirements that would be enforced by the MPCA. The plan requirement is not subject to citizen suits or enforcement by the EPA's administrator under the CAA.

Subpart 1. **Statewide mercury air emissions goal.** Subpart 1 describes the annual mercury air emissions goal of 789 lb/yr that was set in the TMDL study approved by the EPA in March 2007. This subpart does not impose a requirement on any affected person. It is reasonable to identify the TMDL emission reduction target and inform interested parties of the goal to be achieved by 2025.

Subp. 2. **Applicability.** This proposed subpart is important to this rulemaking, as it explains what rules apply, and who must comply with these rules. The applicability subpart defines which stationary sources will have to prepare a mercury emissions reduction plan. This subpart focuses on existing mercury emission sources – those in operation as of the effective date of this rule. As part of applicability, this subpart provides a method to demonstrate whether the facility is <u>not</u> a mercury emissions source.

To determine if the source is subject to these rules, the owner or operator is directed to look at three years of data to determine actual emissions in order to take into account normal variability in production levels, mercury content in raw materials, etc. If three years of data are all below the threshold, the source is not a "mercury emission source." It is reasonable to use three years' worth of data because three years should cover a range of normal operation with seasonal and economic variability.

If emissions from a stationary source fall below the threshold for three consecutive years, then the owners and operators are not obligated to follow the requirements for mercury emission sources. However, if mercury emissions increase above three lb/yr, then the owners or operators must follow the proposed requirements. It is reasonable for the MPCA to limit regulation to the facilities whose contribution to the statewide mercury total are above the threshold for determining if a source is a "mercury emissions source".

Item A asks the owner or operator to retain the records that are created to determine whether the facility is subject to this rule. Item B requires that the records be produced at the MPCA's request. This is

the least intrusive method for documenting a compliance determination in that affected facility owners will act appropriately in reporting to the MPCA. If an owner or operator does not report, or does not keep records, they may be subject to MPCA enforcement action in response. In this way, a facility is encouraged to act under its own initiative and the MPCA responds only if there is failure to act.

Item C describes how or when a facility will become subject to these requirements in the future. The MPCA believes if a source determines that mercury emissions are below the three lb/yr threshold, it will be less costly to continue to emit low amounts of mercury rather than allow mercury emissions to rise and face the cost of installing pollution controls.

Subp. 3. **Mercury emissions reduction plan.** This subpart requires an existing mercury emissions source emitting more than three lb/yr to submit a mercury emissions reduction plan, unless it meets one of the conditions listed in this subpart. It is reasonable to describe who must prepare a reduction plan.

Items A through E of this subpart list conditions that must exist to relieve sources from the requirement to prepare a mercury emissions reduction plan.

Item A addresses certain large EGUs in Minnesota for which mercury reductions are governed by Minn. Stat. §§ 216B.682 to 216B.688. The MPCA does not intend to modify the statutory schedule in this rulemaking for these affected mercury emission sources. Because the Legislature has already established a schedule and process for these units, it is reasonable to relieve these mercury emission sources from having to prepare a reduction plan.

Item B addresses stationary sources in which the only emissions are from combustion equipment that uses natural gas, liquid propane gas, propane, or oil fuels. These fuels do not contain enough mercury to justify the effort by owners or operators to develop, or the MPCA to approve, a plan. Therefore, it is reasonable to relieve these sources from the reduction plan requirement rather than require owners or operators to calculate emissions from sources likely to emit below the threshold.

Item C identifies the performance standards for mercury emissions from certain mercury emission sources. These mercury emission sources have specific performance standards that will reduce mercury. Units covered by a listed performance standard will not be included in a reduction plan under this item. It is reasonable to relieve these sources from the reduction plan requirement to avoid a facility duplicating efforts already undertaken by the state of Minnesota or EPA in creating the performance standard.

Item D addresses sources subject to Minnesota's Industrial Stormwater Multi-sector General Permit, Sector M (Automobile Salvage Yards) or Sector N (Scrap Recycling and Waste Recycling Facilities). These sources are required to prepare a Mercury Management Plan under the general permit. The contents of this plan are identical to what would be expected by the MPCA under the TMDL and air quality program. Relieving these sources from the reduction plan requirement is reasonable because it eliminates duplication of effort by the source.

Item E specifies that sources with an issued air permit or other enforceable document that requires mercury reductions comparable to those proposed in subpart 6 of this part are relieved from preparing a reduction plan. Relieving these sources from the reduction plan requirement is reasonable because it eliminates duplication of effort by the source.

Subp. 4. **Mercury emissions reduction plan; submittal deadlines.** Subpart 4 identifies the date by which owners or operators of an existing mercury emissions source, as defined in proposed part 7005.0100, subpart 23b, must submit a plan to reduce mercury emissions. To ensure that affected facilities undertake action to address their responsibility for mercury reduction, it is reasonable for this subpart to require that the reduction plan be submitted, and establishes a deadline for submitting the plan.

This subpart also states that when the Commissioner approves the plan, MPCA will incorporate the plan's conditions into a permit or other enforceable document. Operating parameters like carbon injection rate are necessary conditions within a facility's air emissions permit or other enforcement document to ensure continuous compliance, and to establish averaging periods and monitoring requirements. Other enforcement documents may be used by the MPCA, depending on the permit status of a facility or the nature of the reduction plan. For example, if an air emissions permit is not in a queue for reissuance or amendment, or an owner will rely on multiple facilities to achieve mercury reductions, the MPCA and facility may choose to issue an administrative order to create enforceable operating requirements that will achieve the mercury reductions at the emitting source.

Item A establishes the reduction plan submittal deadline for all non-ferrous mining or processing sources, which are provided an exemption in item B. The MPCA is proposing that plans be submitted by June 30, 2015. This date provides about a year and a half from the promulgation of this rule to conduct the research and engineering evaluations needed to fully inform the reduction plan requirements of subpart 5. This deadline provides three years from plan submittal to the demonstration deadline in subpart 6 to achieve the reductions. The amount of time provided between plan submittal and demonstration parallels the amount of time the CAA provides industries to comply with a NESHAP promulgated under Section 112(d), which has been proven to be adequate for compliance. It is reasonable to provide a compliance period similar to, but no longer than, other types of regulatory requirements.

Item B establishes a separate deadline for ferrous mining industry sector, carrying forward the date from the TMDL Implementation Plan. It is reasonable to provide more time to prepare a reduction plan for taconite production facilities because mercury-reduction technologies are just now being trialed at full scale, and time is needed to evaluate long-term performance and to balance the impact of mercury control technologies on taconite production .

Subp. 5. **Mercury emissions reduction plan elements and format.** Subpart 5 contains the required contents of a mercury emissions reduction plan.

This subpart originates from a recommendation in the statewide mercury TMDL Implementation Plan. The TMDL plan states that the MPCA will develop rules to require that facilities prepare and submit a plan showing how they will reduce emissions to meet the mercury reduction target (*Implementation Plan for Minnesota's Statewide Mercury Total Maximum Daily* Load, October 2009, page 11). As noted above, the actions identified by a TMDL study are not currently enforceable air quality requirements. Therefore, the proposed rules would establish the requirement for owners or operators to develop and fulfill mercury reduction plans.

As discussed in Section X, Regulatory Analysis, requiring facilities to develop and implement their own mercury reduction plan is reasonable because it allows for site-specific conditions to be considered. Owners or operators can develop the most efficient and effective approach for their facility. The alternative to having facilities propose their own plans would be for the MPCA to design a performance

standard. That process would be lengthy and would not provide the same level of flexibility to owners and operators.

Item A establishes the information required in the mercury reduction plan. It is reasonable to describe the content of a plan so that an affected facility prepares a plan that addresses the elements that are important to mercury emission reductions and necessary to plan approval. The MPCA must request sufficient information to determine whether the plan will result in reduced emissions. None of the information required in this subpart is unusual or new. Current rules governing air emissions permitting require descriptions of emissions-causing sources (part 7007.0500, subpart 2.C., items (1), (3), (6), (7), (8), (9) and (10)), as well as conditions related to controlling pollution. In this case, the requirements are being further tailored to direct or focus information as it pertains to mercury. The requirements focus on providing the MPCA sufficient technical information about mercury emissions generation and subsequent control, and parameters necessary to craft permit conditions.

The techniques for controlling mercury emissions vary depending on the process, and so it is reasonable to request information that demonstrates that the plan will result in controlled mercury emissions. Controlling mercury requires understanding which process inputs contain mercury and how an industrial process might be releasing the mercury, e.g. during the combustion of a fuel that contains mercury, the processing of an ore, the vaporization of liquid mercury during the assembly of a relay or switch.

In addition to the technical elements, sufficient information related to developing permit conditions must also be provided to the MPCA in the plan. These elements include how the source will conduct ongoing monitoring of the mercury emitting process, recordkeeping, reporting, and calculation of the mass of emissions released.

Subitem (1) describes the content of a plan. The rule states that the plan must be submitted in a format specified by the Commissioner, and contain the items in units (a) through (f) below. Plan preparation and subsequent review by the MPCA can be streamlined through the use of forms developed by the MPCA, much like the current forms used by a facility in completing an air emissions permit application.

Unit (a) requires a description of the mercury emission source, along with a description of the technologies, materials or work practices that will be used to reduce mercury emissions. This is a reasonable information item to determine plan requirements, deadlines, etc. Additionally, this description is necessary to understand how mercury is released, which will determine appropriate control options. Unit (a) also refers to subpart 6 of this part, which contains a more specific instruction as to the required reduction quantity for each source type.

Unit (b) requires the owners or operators to identify the eventual mercury reduction for the emission unit. The owners or operators may choose whether to provide the information in the form of a reduction amount, control efficiency, or an emission limit. Facility operators often request for flexibility to choose their own methods of meeting environmental requirements. It is reasonable to allow the owner or operator the latitude to determine the form of the reduction because all approaches will work to achieve the mercury reductions. It is reasonable to request this information to assess the source's contribution toward the goals of the TMDL Implementation Plan.

Unit (c) requires a discussion of the operating parameters that affect mercury control, and how they work together to optimize and maintain mercury controls. Most of the control requirements are expressed in terms of removal efficiency; therefore, it is reasonable to focus on the parameters that will

maximize removal efficiency. It is expected that conditions of the emitting unit in addition to the conditions of the control device will have to be assessed in order to accurately describe optimized mercury control.

Unit (d) requires that the plan contain proposed monitoring and recordkeeping for the process unit/control device, or citation to a rule that imposes monitoring and recordkeeping. The goal of this requirement is to include in a permit, or other enforceable agreement, the monitoring, reporting and recordkeeping that should be conducted by a source to provide a reasonable assurance of continuous control of mercury emissions, particularly those sources that will rely on additional control equipment. Because at this point the type of controls that will be used is unknown, the rule requires that the plan contain a proposal for measuring and recording mercury emissions. The MPCA and facility will then work to ensure that the parameters selected for monitoring and associated recordkeeping correlate to mercury controls. Requiring monitoring and recordkeeping is reasonable because it treats the operation of mercury control equipment similarly to control equipment for other types of pollutants and because it ensures that progress toward achieving the TMDL mercury reductions is documented.

This unit also requires that the plan evaluate the use of continuous emissions monitoring systems (CEMS) for mercury. There are two types of continuous monitors: an extractive "continuous" system and the sorbent tube (often referred to by its label in federal regulations monitoring methods, "Method 30B"). It is reasonable for a facility to assess the benefit of both, for parametric monitoring as well as compliance determination because CEMS allow for measuring all mercury emissions, especially for sources that may have highly variable emissions. Because all periods of operation are measured, CEMS result in the most accurate measurement of mercury emissions of all methods available to quantify emissions from air pollution sources. CEMS may not be technically feasible in every instance that mercury is being emitted; therefore, the rule is requiring the owner or operator to assess the situation.

Unit (e) requires owners and operators to submit the appropriate type of air permit amendment application should their proposal require any changes that meet the definition of a modification, and provide a schedule in the plan for submitting the application. This is reasonable to avoid non-compliance with other permit requirements. Owners and operators will need to factor in time to process a permit amendment in their proposed reduction schedule, before the final compliance demonstration date in unit (f).

Unit (f) identifies January 1, 2025, for the final compliance demonstration. This carries forward the date from the TMDL Implementation Plan. It is reasonable to align the rule requirements with the underlying TMDL reduction target. It is also reasonable to establish a compliance demonstration date to ensure that the necessary mercury reductions are actually achieved.

Subitem (2) establishes a procedure to follow if the process-specific controls in subpart 6 of this part are not technically achievable. It is reasonable to provide a procedure so that owners or operators of sources required to have a plan provide consistent information similar to other facilities under these rules, and a standard to demonstrate that mercury reductions will be achieved.

Unit (a) requires that an alternative plan contain similar information about the source as identified in the plan elements in item A. This is reasonable for the same reasons as discussed under item A.

Unit (b) requires owners or operators to explain why the mercury reductions in subpart 6 are not technically achievable. The reductions in subpart 6 are based on information that leads the MPCA to

believe they are feasible levels of control or reduction. However, the MPCA understands that some sources may have different physical or operational constraints such that an alternative method to reduce mercury is necessary. It is reasonable for the MPCA to provide a measure of flexibility to these sources to achieve the TMDL reduction.

Unit (c) requires a demonstration that the method for reducing mercury emissions achieves the greatest reduction technically feasible. Because the mercury TMDL relies on all sources to reduce mercury, it is imperative that sources that are proposing to not achieve the reductions required by this rule clearly state how the alternative plan will result in the maximum amount of mercury reduced, and will become enforceable conditions to ensure that the source meets the reductions on a continuous basis.
Unit (d) requires owners and operators to estimate the mercury emissions expected under their alternative proposal. It is reasonable for the MPCA to ask for this information to assess the alternative plan in the context of the overall mercury reductions that will be needed to meet the statewide mercury reduction.

In general, it is reasonable to establish the above requirements to ensure that owners or operators of a mercury emission source understand their obligation in designing their plan to meet the regulations. In providing the owner or operator with this latitude to submit their own plan rather than impose specific reduction methods, these requirements ensure that the plans are well thought out and likely to result in the necessary mercury reductions. The owner or operator must submit a plan, encompassing the requirements of this subpart. This information is also useful for the MPCA to ensure consistency in implementation.

Item B identifies the action the Agency will take on the mercury emission reduction plans. The Agency is responsible for reviewing the plans to determine if the plan requirements have been met; and if the plan is approvable or if it is deficient and needs correction. It is reasonable for the owner or operator to be notified of the plan deficiencies in order to provide the owner or operator the information they will need to correct the deficiencies.

Subp. 6. **Mercury control and work practices.** Subpart 6 identifies mercury control and work practices, and describes specific reductions for each sector, and a deadline for when the mercury reduction must be demonstrated.

All mercury emission sources affected by this rule must undertake some sort of action to control mercury emissions: change processes or raw materials, change air pollution control equipment, or some combination of the two strategies. These changes require human and capital resources. It is reasonable to establish a deadline for achieving the mercury reduction because delaying the reduction could result in uneven and unpredictable mercury reductions with the potential that necessary reductions will not be achieved at all. In addition, without a compliance deadline, non-complying entities gain a competitive advantage over those that step up and implement reduction methods.

Item A establishes the mercury control requirements for ferrous mining or processing. Subitem (1) describes the industrial sector and type of facility covered under ferrous mining or processing. The October 2009, TMDL Implementation Plan describes the sector as the "taconite processing" sector. The use of the term "taconite processing" is not entirely correct, as the industrial sector evaluated in the Plan includes the Mesabi Nugget reduced iron nugget production facility that uses a rotary hearth furnace and is not a taconite processing plant, but is a significant mercury emissions source. As a result, to ensure proper classification of facilities, this industrial sector is described in this proposed rule as

"ferrous mining or processing", and the affected units are described in subitem (1) as "taconite indurating furnaces" and the "rotary hearth furnace of a direct iron reduction facility".

The companies in this industrial sector committed to achieving a 75 percent reduction of mercury emissions. The year 2010 was selected as the baseline year for determining the mass emitted from which the 75 percent reduction must be made; two facilities, one a taconite indurating furnace and the other the direct iron reduction facility, were permitted but were not yet in operation. Including the sources in this sector reduction is important because the sources represent significant mercury emissions, and were permitted prior to the EPA's approval of the mercury TMDL. While new construction allows for constructing more energy efficient controls and the opportunity to plan for anticipated mercury control, the MPCA did not have a TMDL or an Implementation Plan in place to guide how these sources were to be permitted. Additionally, because of common ownership between several facilities, it was anticipated that reduction strategies might include emission control strategies encompassing more than one facility. Therefore, the reduction for this sector is structured across all ferrous processing, and is described as a reduction from the 2010 emissions. This structure preserves the reductions contemplated by the TMDL.

Recent completion of mercury control testing funded by EPA and the facilities has demonstrated successful applications of mercury control technologies. Therefore, the MPCA believes that each ferrous processing facility has collected information sufficient enough to begin formulating site-specific strategies for each furnace to achieve the reductions of the TMDL Implementation Plan[3]. Additives to existing wet particulate matter scrubbers, activated carbon injection, carbon and other novel materials for flue gas filter beds, installation of fabric filters with and without activated carbon injection were evaluated in the research. Not all technologies will develop into full scale installations; however, the 75 percent reduction was demonstrated with several technologies. Because technologies were not yet demonstrated at a facility scale in the long term, a more cautious approach was advocated in the TMDL Implementation Plan development process. The proposed rule adopts the TMDL Implementation Plan recommendation and requires that each facility plan show how mercury emissions will be reduced by January 1, 2025, at all ferrous mining facilities.

Subitem (2) provides three options by which owners and operators may achieve the mercury reductions. The TMDL Implementation Plan is seeking a reduction from the industrial sector and not necessarily at each facility. The taconite facilities are under various ownerships that may or may not have common control between facilities now or in the future. This rule is not intended to require any particular ownership structure. Units (a) and (b) allow for reductions at one or more indurating furnaces. Unit (c) requires that if the mercury reduction plan involves achieving the reduction at more than one stationary source, then an enforceable agreement is required. An agreement will have to be an enforceable agreement that is not an air emissions permit, because air emission permits are facility and owner specific, and permit conditions cannot be shared between facilities. If two facilities of unrelated ownership seek mercury emission reductions in relationship with one another, some agreement other than an air emissions permit must tie the units together. This subitem also clarifies that an enforceable agreement does not take the place of a permit if modifications undertaken for mercury reductions require a permit.

[3] "Taconite Mercury Emission Control Studies: Phase One", November, 29, 2012, was submitted to EPA; the report is available at: http://files.dnr.state.mn.us/lands_minerals/reclamation/berndt_2012_final.pdf

Item B establishes mercury control requirements for the sources that melt scrap metal into iron or steel products. This rulemaking proposes that iron and steel melters prepare a mercury control plan that shows how the melter will achieve an emissions rate of 35 mg of mercury/ton of steel produced.

The rule affects the only Gerdau Ameristeel facility in St Paul, and establishes a deadline of June 30, 2018, by which this reduction must be demonstrated. This is a reasonable deadline for achieving the reduction as this requirement is not yet typical of an electric arc furnace (EAF) in the United States and sufficient time must be provided to allow for evaluation, design, installation, and compliance demonstration of a mercury control system at the facility.

As a result of rulemaking in 2004, iron and steel melters in New Jersey applied ACI, significantly reducing mercury. In 2006, Atlantic States installed an ACI system and baghouse at its cupola furnace where scrap metal is melted. Stack tests that were conducted at Gerdau Ameristeel's facility in Sayreville starting in 2008 showed that, with controls, mercury emissions are well within the New Jersey mercury rule limit of 35 mg/ton or 75 percent control[4]. The MPCA is proposing the same limit for the Minnesota facility as its sister plant in New Jersey because the 35 mg/ton has been achieved in practice, and will reduce emissions from the Minnesota facility by up to 85 percent based on past emission test results.[5]

Subitem (1) defines the term "iron or steel melter". It is reasonable to include a definition of "iron or steel melter" to identify which sources are intended to be regulated with this standard. This definition describes the activity of melting iron to produce steel or other iron products. This definition is written to describe the type of feedstock being used in order to distinguish between iron and steel melters that do not use scrap that contains mercury.

Subitem (2) defines the term "motor vehicle scrap." It is reasonable to define this type of scrap because this term is used in the definition of "iron or steel melter," the type of source that is subject to the requirements of this part.

Subitem (3) defines the term "undifferentiated shredded ferrous scrap." It is reasonable to define this type of scrap because this term is used in the definition of "iron or steel melter," the type of source that is subject to the requirements of this part.

Item C establishes the mercury control requirements for ICI boilers.

The TMDL strategy for this sector originally anticipated that most ICI boilers would be controlled sufficiently by adhering to the requirements of EPA standards for Maximum Achievable Control Technology (MACT) under a federal NESHAP. The TMDL sector strategy recommends additional controls if the federal standards do not require at least 70 percent control.

The EPA promulgated the NESHAPs in January 2013 for ICI boilers located at major HAP sources and February 2013 for boilers located at area sources. The NESHAPs establish mercury limits as pounds per trillion BTU, rather than as a reduction percentage. The final mercury limit was relaxed from prior final and re-proposed regulations for both the area and major source NESHAPs.

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[4] New Jersey Department of Environmental Protection Mercury Workgroup. New Jersey Mercury Reduction Action Plan—Draft for Stakeholder Comment November 2009 www.nj.gov/dep/dsr/mercury/final-hg-plan11-5.pdf

[5] Reference stack test report here for Gerdau

MAJOR source existing boilers using solid fuel/coal MERCURY limit

March 2011 Final	4.6 x 10-6 lb/MMBtu heat input
December 2011 Proposed	3.1 x 10-6 lb/MMBtu heat input
January 2013 Final	5.7 x 10-6 lb/MMBtu heat input

AREA source existing boilers using solid fuel/coal MERCURY limit

March 2011 Final	4.8 x 10-6 lb/MMBtu heat input
December 2011 Proposed	2.2 x 10-5 lb/MMBtu heat input
February 2013 Final	2.2 x 10-5 lb per MMBtu input

The MPCA staff evaluated whether ICI boilers would meet the TMDL reductions through compliance with the final NESHAP mercury limit. Based on recent emission tests at Minnesota industrial boilers, it is possible that mercury emissions would nearly triple relative to the baseline year if facilities in the TMDL inventory emitted mercury at rates up to the NESHAP limit. The ICI boilers meeting the NESHAP mercury limits would not result in mercury reductions that meet the TMDL reduction needs.

To gather more information on ICI boilers, MPCA staff contacted six of the facilities with ICI boilers that typically had higher levels of coal use to assess whether mercury reductions were likely under the NESHAP.

- Two facilities had tested mercury levels above the NESHAP and therefore were in the process of evaluating changes necessary to achieve compliance with the NESHAP.
- One facility determined that no changes were necessary because of the mercury limit in the NESHAP but other issues required plant updates.
- One facility converted to natural gas in 2012.
- The other facilities did not share whether changes were expected to achieve compliance with the mercury limit in the NESHAP.

The MPCA concludes that the ICI boiler NESHAP cannot be relied upon to reduce mercury emissions to secure reductions from ICI boilers necessary to achieve the mercury TMDL. Therefore, the MPCA proposes to include this sector under the reduction plan requirement of this rule.

Within one year of the effective date of the rule, the owner or operator of each existing ICI boiler must calculate mercury emissions and/or control levels. This calculation is necessary for the owner or operator to determine whether to prepare a reduction plan for the ICI boiler. Similar to other air quality rules, records of the calculation must be kept for at least five years. It is reasonable to be consistent with other recordkeeping requirements and to maintain records on-site that demonstrate compliance.

The TMDL Implementation Plan for ICI boilers is to require coal-fired boilers emitting greater than two lb/yr to undertake mercury reduction activities in order for the sector to achieve a sector total mercury emissions goal of 33 lb/yr.

Subitem 1 identifies exceptions from an owner or operator having to prepare a mercury reduction plan for an ICI boiler. The unit is not subject to a reduction plan if actual mercury emissions at the time the calculation is made – and considering existing controls – are less than five lb/yr. If emissions are over five lb/yr, the owner or operator may still be exempt from preparation of a reduction plan if the amount of mercury is controlled by at least 70 percent compared to 2005 emissions.

Subitem 2 identifies the next steps that an owner or operator will take if the exceptions in subitem 1 do not apply, or when actual mercury emissions are greater than five lb/yr and mercury control is less than 70 percent compared to 2005 emissions.

This subitem requires owners or operators to evaluate the expected mercury emissions from the ICI boiler that will be achieved when the NESHAP is implemented. Owners or operators will compare the expected emissions under the NESHAP to emissions in 2005.

If the expected emissions show at least 70 percent control, no further action is required. Otherwise, the owners or operators must prepare a reduction plan that would incorporate the controls identified by the TMDL Implementation Plan and achieve at least 70 percent reduction. The TMDL identified additional particulate control and/or activated carbon injection as control options. The procedure in subitem 2 is reasonable to systematically guide the decision on the need for and content of a mercury reduction plan for an ICI boiler.

Item D addresses mercury emission sources not otherwise identified in this subpart or chapter 7011. In the event that there is a facility that was not identified as a mercury emission source, either in the TMDL or by the MPCA during the development of these rules, this item requires the owners or operators of such sources to submit a mercury reduction plan. It is reasonable for the MPCA to require a similar plan for all sources with comparable levels of mercury emissions and that are not subject to other applicable requirements.

Subp. 7. **Posting of plans.** Subpart 7 commits the MPCA to post the proposed mercury emissions reductions plans on the MPCA webpage. The MPCA will post the plans because stakeholders expressed an interest in being able to view the plans. It is reasonable for the MPCA to provide a mechanism for informing interested parties of these plans and progress toward the TMDL reduction target.

Subpart 8. **Mercury emission reduction plan implementation.** Subpart 8 establishes that owners or operators will implement the plans to reduce mercury. It is reasonable to require owners and operators to implement the plans. First, the owners or operators are implementing plans that they developed themselves that are best suited to their facilities. Second, there is no assurance that the TMDL reductions will ever be achieved without a requirement to implement the reduction plans.

This subpart also proposes annual progress reports between one year after the date a source's reduction plan is due and one year after the date they demonstrate the achievement of the proposed reduction. This item is intended to provide information on the progress that sources make toward meeting their mercury reduction plan elements. Regular assessments of progress will help both the sources and MPCA address any issues that arise and, if necessary, allow time for plans to be modified. This provision is reasonable as it acknowledges that there is some uncertainty regarding actual facility operations due to the long time horizon between the TMDL approval and the statewide reduction target date of 2025.

Subp. 9. **Modifications of plans.** Subpart 9 establishes the process for modifying approved mercury emissions reduction plans. Because of the relatively long time frame between when a plan is submitted and the final date to achieve the mercury reduction, owners or operators might need to change their plan proposal to address changes in operations or improvements in mercury control devices. It is

reasonable then for these rules to allow for this contingency and provide guidance on the procedures to make such a change.

Item A requires that a request to change the plan be made in writing and submitted to the Commissioner. Subitems (1) to (3) specify the content of the request to include a description of and reason for the modification. This is reasonable to demonstrate what is different from the original proposal. If the request is to change the proposed mercury reduction, the owners and operators are to include information similar to the original plan, as detailed in this part under subpart 5, item A. It is reasonable to require the same analysis for the new proposal as was required for the original proposal for the same reasons as described under subpart 5, item A.

Item B keeps an owner or operator from implementing the modification until the plan has been approved or incorporated into a permit or other enforceable agreement. Because the original plan will have been subject to review and approval, it is important that revisions go through review and approval so that reductions are still achieved and on time.

3) CHAPTER 7011 STANDARDS FOR STATIONARY SOURCES.

Chapter 7011 contains the MPCA's performance standards for stationary sources. Chapter 7011 includes both the incorporation of federal performance standards by reference as well as state-specific standards.

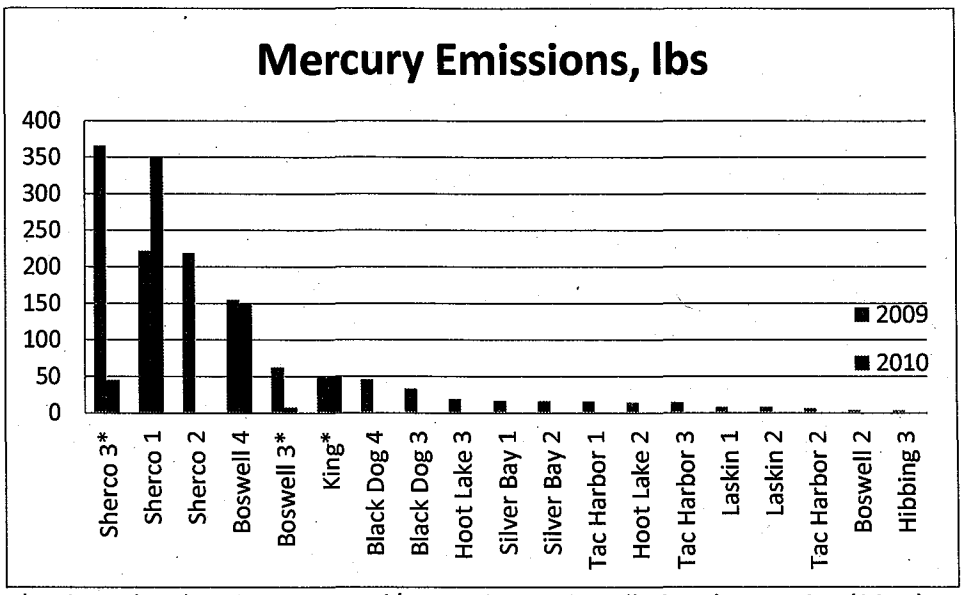
PART 7011.0561 CONTROL OF MERCURY FROM ELECTRIC GENERATING UNITS.

Part 7011.0561 is proposed to establish control requirements of mercury from coal-fired EGUs in Minnesota.

In Minnesota, generating electricity from burning coal released about 1,716 pounds of mercury into the atmosphere in 2005, approximately 52 percent of the statewide inventory. The EGUs in the TMDL Implementation Plan must control emissions such that this sector emits 235 pounds or less by the year 2025. An interim goal of 294 lb/yr in 2018 was also established in the mercury TMDL implementation plan to secure the results of current and developing mercury control projects at Minnesota EGUs.

Mercury is emitted because mercury is a natural constituent of coal; the fuel used in many EGUs, and will escape significant removal in existing downstream air pollution control devices. Research conducted by the U.S. Department of Energy, the EPA, and the electric generating industry in the past 15 years has resulted in the development of very effective mercury control technologies. The most widely applicable technology is the injection of sorbents or oxidizing agents into combustion gases upstream of existing air pollution control devices. These technologies oxidize mercury so that this mercury is captured in existing particulate control devices or acid gas scrubbers.

Figure 1. Mercury Emissions from EGU's in Minnesota



*activated carbon injection and/or SCR is now installed and operating (2011)

The Minnesota Legislature in 2006 established a requirement for regulated utilities in Minnesota to develop a plan that leads to the installation and operation of mercury controls on the largest coal-fired boilers. (Minn. Stat. §§ 216B.68 to 216B.687 or the Mercury Emissions Reduction Act of 2006) The statutes establish a series of deadlines for the operation of mercury controls and direct the utility operators of the largest coal-fired boilers in Minnesota to employ the mercury control technology that is most likely to achieve at least 90 percent removal of mercury. Rules are necessary for successful implementation and enforcement of the conditions of the statute, because the statute is silent on several aspects. Most significantly, the statute leaves to the Agency to establish procedures necessary for operating and certifying the required mercury monitors, as well directing the MPCA to establish a mercury emission limit.

Further, the Minnesota Implementation Plan for the statewide mercury TMDL establishes reduction requirements and timetables for mercury reductions at all EGUs. This rulemaking is proposed to place the reductions of the TMDL into rule so that they are enforceable requirements. Part 7011.0561 is proposed to address these issues.

Federal rulemaking that affects all coal-fired EGUs, the Mercury and Air Toxics Standards, has recently been promulgated and the federal standard is proposed for incorporation in this rulemaking. In order for the MPCA to be delegated implementation and enforcement authority of the federal rule, an MPCA agreement with EPA states that the federal rule must be effective as state law. This rulemaking is necessary to achieve state enforceability of the federal rule.

The MPCA has tried to harmonize state rules with the requirements of the federal rule while meeting the intent of the Mercury Emissions Reduction Act (MERA) and the mercury TMDL. The federal rules contain procedures for operating and conducting quality assurance tests on continuous emissions monitors, to measure a mercury emissions rate. The proposed rules rely on the federal rules for operating and conducting quality assurance tests to determine mercury emission rates, but instruct the owner or operator to calculate an annual mass of mercury emitted; an additional step beyond the

federal rules. Both this state rule and the federal rules will apply. Proposed rule part 7011.0563 includes the incorporation by reference of the federal utility mercury control regulation.

Subpart 1. **Applicability.** This subpart describes which mercury emission sources are affected by the rule provisions and also informs the reader that some EGUs will be exempt. EGUs that emit more than five lb/yr of mercury are subject to this rule. The TMDL stakeholder group evaluated all sources of mercury based on mass of mercury emitted, processes that resulted in mercury emissions, available technologies to control or reduce mercury emissions and the cost of mercury reductions. Based on that evaluation, the TMDL stakeholder group recommended that EGUs emitting more than five lb/yr should be subject to this rule and the MPCA accepts the group's recommendation. It is reasonable to orient readers to the rule provisions.

Procedures are proposed in subpart 6 for demonstrating emissions are five lb/yr or less. EGUs emitting at this level are small, operated infrequently, or well-controlled. By establishing a threshold, significant investments in controls is avoided while still achieving the objective of the TMDL in reducing mercury emissions overall.

Mercury as a persistent bioaccumulative toxic (PBT) is toxic at very low levels in the environment to humans and wildlife. Analytical methods and equipment used to measure mercury in environmental samples are capable of detecting mercury at very low levels. Given these considerations, it is important to consider the precision of the estimate of annual mercury releases from air emission sources.

Because EGUs rule are reporting annual mercury mass releases to EPA's Toxic Release Inventory (TRI), the MPCA reviewed the TRI's requirements when reporting PBTs. Overall, TRI releases are reported to two significant digits, and for mercury, sources releasing greater than 0.1 pounds per year are required to report emissions. The MPCA believes that to address environmental problems of mercury in Minnesota, it is most useful to report mercury emissions to one decimal point. This treatment of data and resulting calculations reflects the general precision of the data available to estimate annual emissions for affected sources, and the MPCA will require that EGUs emitting greater than 5.0 pounds of mercury will be subject to these requirements.

Subp. 2. **Definitions.** This subpart contains definitions used throughout this proposed part. It is reasonable to establish these definitions so that the Agency and regulated parties have a common understanding of the use of terms.

Item A. **Boiler operating day.** This term is used to describe periods of time because stack tests are now being required to be conducted continuously for periods of time measured in days. A definition of the "day" is provided to ensure that continuous periods of stack testing excludes days when the boiler is not operating. This definition adopts the definition of boiler operating day found in the federal Mercury and Air Toxics Standards (MATS) rule. It is reasonable to align testing provisions between state and federal rules to avoid duplicating requirements.

Item B. **Coal-fired electric generating unit.** Because electric generating units (EGUs) can use a number of different fuels, a definition of a coal-fired unit is needed in order to identify which mercury emitting units are to comply with this rule. This rule is focused only on coal-fired EGUs because coal naturally contains mercury which is released when combusted. To apply the mercury control rule, the affected EGUs must be specified. It is reasonable to establish this definition to ensure regulated parties and the Agency have a common understanding of what a coal-fired EGU is.

Item C. **Electric generating unit.** This definition is being proposed to specify which boilers are subject to the conditions of this part. Utility boilers are distinguished from industrial boilers mostly by size, operating conditions, and their electricity generation (versus heat or steam at industrial facilities). These differences have led the MPCA to determine that they must be regulated differently from one another. The MPCA is proposing to define electric generating units or EGUs identically to EPA so that Minnesota mercury control requirements are in parallel with EPA requirements, and so that utility boilers are consistently regulated, thereby minimizing the number of requirements applicable to a unit. It is reasonable to establish this definition to ensure regulated parties and the Agency have a common understanding of what an EGU is.

Item D. **Grace period.** This term is used to describe when quality assurance tests of mercury monitors must be performed. It is reasonable to define this term because the tests must be performed by certain deadlines, and missing the test is subject to enforcement action. The term is placed within this subpart for definitions, because is it used several times, and its meaning is the same each time.

Item E. **Operating hour.** To collect mercury emissions data with a continuous monitor and determine emission rates and total emission reductions, operating periods of interest must be specified. The MPCA is defining "operating hour" in order to describe to utility boiler operators the minimum period of time for averaging mercury emissions data, in order to calculate mercury emissions. It is reasonable to have a consistent method for determining emissions, allowing for comparison to control requirements, between facilities and over time.

Item F. **Quality-assured operating quarter.** This phrase is used to tell boiler operators when a continuous monitor must be operated. The same phrase and definition are found in federal regulation 40 CFR 72.2, the definitions for the acid rain program general provisions. The EGUs affected by this proposed rule are already well-acquainted with this definition as the EGUs are already subject to the acid rain rules from which this term has been borrowed. It is reasonable for state rules to mirror federal regulations when appropriate. Using the same term ensures common understanding and eases compliance.

Subp. 3. **Exemption.** Owners and operators of coal-fired EGUs that do not combust coal for more than ten percent of the average annual heat input during any three consecutive calendar years or for more than fifteen percent of the annual heat input during any calendar year are not subject to the requirements of this part. This subpart exempts EGUs that burn very small amounts of coal with other fuels from complying with these standards.

There are instances where coal may be burned along with other fuels, most commonly biomass fuels like wood or corn cobs. For boilers that are constructed to burn biomass, coal may be burned along with biomass to improve the heat content of biomass fuels, or burned to help support combustion, particularly if biomass is damp. Biomass boilers may start and stop burning coal, depending on electricity sale contracts, biomass quantities and qualities. Regulatory procedures are necessary to guide EGU operators through the changes in applicable standards that may result due to introducing coal into biomass boilers. The MPCA is proposing to adopt the same exemption from these standards as has been promulgated for federal standards for biomass fired boilers that burn coal infrequently. The MPCA has calculated that for the largest of these boilers, the uncontrolled mercury emissions rate would be less than five pounds a year. Because this calculation process has already determined that these units will

most likely remain under five pounds, it is reasonable to exempt these sources from being required to complete a demonstration after rule promulgation.

EGUs that are not subject to this utility standard will be regulated as industrial boilers under U.S. EPA's "Industrial Boiler NESHAP", also proposed for adoption in this rulemaking at part 7011.7050. Both federal rules require boilers to control mercury emissions.

Subp. 4. **Performance Standards for Mercury Emissions.** This subpart establishes specific performance standards to control mercury emissions from coal-fired EGUs as established in Minnesota's mercury TMDL Implementation Plan. These provisions differ from the rules proposed to apply to sources that must submit mercury reduction plans under Minn. R. 7007.0502 in that those sources are allowed generally to propose the amount of reduction and the means by which they will achieve the reduction. This part proposes emission limits for each class of EGUs in Minnesota such that when the rule is fully implemented, EGUs as a sector achieve the reductions by the mid-point (year 2018) and final (year 2025) milestones as planned in the Implementation Plan.

The subpart provides an exemption from the requirements of this subpart if the Commissioner has already established a permit limit for mercury under Minn. Stat. § 216B.687, subp. 3. Because the statute is directing the MPCA to establish a mercury emission limit based on demonstrated performance of installed mercury controls, this rule is not necessary to reduce mercury emissions from these EGUs.

The subpart creates three classifications of EGUs subject to the mercury control requirements: EGUs with a electricity generating capacity greater than 100 MW, EGUs with an electricity generating capacity less than or equal to 100 MW, and a third category being supplemental units as defined in Minn. Stat. § 216B.6851, subd. 2. Using the generation is a simple means of determining the classification of an EGU. It is a surrogate parameter representing the total amount of mercury likely released as well as an indirect measurement of the complexity or cost of achieving mercury reductions at the unit.

In an effort to manage the timing and expense in achieving mercury reductions, the TMDL Implementation Plan stakeholders evaluated the characteristics of the EGUs in Minnesota. Table 1 identifies the operating EGUs in Minnesota in 2005 and the cumulative percentage each EGU contributes to the statewide total from coal fired EGUs. In terms of size, there is a break in generating capacity of each unit at about 100 MW. At this size there is also a break in the amount of mercury contributed by the EGU. The top eight units, that is, the units greater than 100 MW, contributed 89 percent of all mercury emissions from EGUs in Minnesota in 2005.

Table 1. Characteristics of Operating Coal Fired Electricity Generating Utility Boilers in Minnesota in 2005

Owner	Plant Name	Unit ID	Capacity (MW)	2005 Mercury Emissions Pounds	Cumulative % of total mercury emissions from EGUs
Xcel/SMMPA	Sherburne County	3	936	310.3	19
Xcel	Sherburne County	1	762	333.7	40
Xcel	Sherburne County	2	752	314	60
Xcel	Allen S King	1	571	60.6	64
Minnesota Power	Boswell	4	426	184.0	75
Minnesota Power	Boswell	3	350	90.0	81
Xcel	Black Dog	4	186	65.1	85
Xcel	Black Dog	3	120	32.2	87
Ottertail	Hoot Lake	3	84	22.3	89
Minnesota Power	Boswell	1	69	3.0	89
Minnesota Power	Boswell	2	69	3.0	89
Cleveland Cliffs	Silver Bay Power	BLR2	69	17	90
Minnesota Power	Taconite Harbor Energy Center	3	68	17	91
Minnesota Power	Taconite Harbor Energy Center	2	67	17.9	92
Minnesota Power	Taconite Harbor Energy Center	1	65	22	94
Ottertail	Hoot Lake	2	62	39.4	96
Rochester	Silver Lake	4	61	1.7	96
Minnesota Power	Syl Laskin	1	55	11	97
Minnesota Power	Syl Laskin	2	55	11	97
Cleveland Cliffs	Silver Bay Power	BLR1	36	13.2	97
Municipal	Austin Northeast	NEPP	29	8.3	98
Rochester	Silver Lake	3	25	1.4	99

Since the development of the mercury TMDL Implementation Plan for Minnesota, EPA adopted the MATS rule, which is proposed for incorporation by reference into these rules at part 7011.0563. Minnesota statutes require mercury control at EGU facilities greater than 250 MW that are more stringent than the mercury control requirement of the MATS rule.

The federal MATS rule requires greater mercury reductions earlier than required by Minnesota's Implementation Plan for the EGUs below 250 MW. The MPCA is choosing to include the mercury TMDL reduction requirements for these EGUs in this rulemaking as a means of tracking implementation of the TMDL even though federal rules are more stringent. Implementation timeframes of the TMDL, and certain parts of this rule, are long. The mercury TMDL could be modified in the future based on Minnesota's success in reducing environmental contamination of mercury. By including this provision, the MPCA is providing some regulatory context or history for the mercury TMDL, providing a milestone to determine the need for future state-driven regulatory efforts.

Item A. The TMDL Implementation Plan recommends that EGUs greater than 100 MW would reduce mercury emissions by 90 percent, and that this reduction would be accomplished by the year 2018. The year 2018 was selected as it acknowledged that due to the age of a number of operating EGUs, resource decisions were going to made between 2009 and 2018, and that environmental controls from pending state and federal rules could be factored into the resource planning if an appropriate planning horizon was established. The year 2018 provides that reasonable planning horizon. Thus, item A proposes to adopt the reduction in the TMDL Implementation Plan to be met by January 1, 2018, for EGUs larger than 100 MW.

Items (1) and (2) must be read together. These two items establish the mercury emissions reduction requirement that an EGU greater than 100 MW must achieve, that is, either a concentration limit or specified removal efficiency. Item (1) proposes a mercury removal of 90 percent of the mercury in the input fuel. Item (2) proposes an emissions rate of 0.8 lb/TBtu. The unit may choose to meet either one of these limits.

Under the TMDL Implementation Plan, this class of EGUs was identified as capable of achieving significant mercury emission reductions because long-term research demonstrated the effectiveness of injection of halogenated powdered activated carbon at utility boilers. Two Minnesota EGUs, Xcel Energy's King Unit 1 and Minnesota Power's Boswell Unit 3 have installed ACI and inject halogenated carbon. Both units have achieved in practice mercury removal efficiencies of greater than 90 percent, resulting in stack emission reductions of 89 to 93 percent from baseline conditions, demonstrating the capability of achieving the planned reductions.

Item (1) requires that the reduction be determined from the amount of mercury contained in the coal, which requires a separate task involving sampling coal and measuring the mercury content. As an alternative to conducting a separate test, the MPCA believes it is appropriate to include an alternative to meeting the 90 percent reduction. In this way, facilities will be able to demonstrate good control by either demonstrating that the unit is achieving the 90 percent reduction requirement through monitoring and coal sampling, or avoid sampling and its cost by complying with a mercury emissions limit. Additionally, providing another means of complying with a mercury reduction standard allows for fuel flexibility and potentially competitively-priced coal supplies. Minnesota utility boilers have burned a range of coals with varying mercury concentrations. Based on the results of monitoring at existing coal

fired boilers with mercury controls in place burning a range of coals, the MPCA is proposing that the maximum allowable mercury emissions rate be 0.8 lb/Tbtu mercury emitted.
Item B. This item addresses the EGUs less than 100 MW. In order to reach the reduction for this sector, the rule proposes that EGUs of this size achieve a mercury removal efficiency of 70 percent, or 2.3 pounds/Tbtu, by the year 2025.

The removal efficiency of 70 percent can be achieved with the use of very efficient particulate matter control, as has been demonstrated by the mercury removal performance at Minnesota Power's Boswell Units 1 and 2. These two small EGU boilers have fabric filters installed for particulate matter control, and have consistently demonstrated mercury removal of greater than 70 percent. Activated carbon injection can also be installed at existing facilities to achieve mercury emission reductions.

As mentioned earlier, this requirement is not likely to drive regulatory responses at the affected EGU units because the federal MATS rule imposes more stringent mercury reductions by 2015, far earlier than this proposed requirement. However, the MPCA is choosing to continue to include this condition to mark Minnesota's progress in the implementation of the strategies Minnesota has adopted to reduce mercury emissions from EGUs in Minnesota.

Item C. This item addresses potential EGUs identified as supplemental units under Minn. Stat. §§ 216B.682 to 216B.688. Under the statute, mercury emissions from these units are to be added to mercury emissions from an EGU targeted under the Mercury Emissions Reduction Act. Because the targeted unit could potentially be subject to the conditions of item A of this proposed subpart, and the emissions from the supplemental units "count" in determining whether the emission reductions have been achieved in practice, the schedule for reductions from the supplemental units must be the same as the targeted unit in Item A. Thus, the reduction schedule for these units is established as the same schedule as in Item A. Because these units are smaller than 100 MW, they are subject to the same emissions reduction as same-sized units in item B.

These rule provisions are reasonable in that they treat supplemental units in the manner in which the statute intended while still achieving mercury reductions being established by the TMDL Implementation Plan.

Subp. 5. **Monitoring mercury emissions.** This subpart establishes requirements relevant to the monitoring of mercury emissions.

Under Minnesota statute, two utility companies were required to install five continuous mercury emissions monitors at the six largest coal-fired boilers in Minnesota. Under the recently adopted federal rules, utility boilers with a potential to emit greater than 29 pounds of mercury per year are required to install continuous mercury emissions monitors. In Minnesota it is unlikely that additional boilers will install continuous mercury monitors because the quantity of mercury emitted from the units is sufficiently small enough and well-controlled to fall below the 29 pound threshold for continuous monitoring.

The rules establish emission limits and methods of measuring emissions in order to demonstrate compliance with the emission limits.

Item A. The Minnesota Legislature required the installation and operation of continuous mercury emission monitors at coal-fired EGUs equal to or greater than 250 MW net approved by the MPCA In

accordance with Minn. Stat. § 216B.681. This item requires that EGUs greater than 250 MW (net) shall use a method of continuously monitoring emissions.

The statute recognizes the situation existing at the time of adoption, where methods and procedures for proper operation of continuous mercury monitoring systems were under development, and so directs the MPCA to use federal methods were possible. The statute also allows the MPCA to develop other methods as necessary. Federal rules monitor mercury emission rates (e.g., pounds of mercury per unit of heat input), a common requirement between the federal and state rules. However, the TMDL is a reduction in the total mass released from emission sources, requiring an emissions calculation different from that required under federal rules. Additionally, the statutory requirement at the large EGUs in Minnesota is more aggressive than federal rules in reducing mercury. These two conditions require small but different approaches to monitoring mercury emissions from EGUs.

Subitem (1). This subitem establishes the requirement for the facility to prepare a monitoring plan to address the procedures for operating a monitor, which are specified in subparts 5 and 6. It is reasonable to require a monitoring plan because each EGU and monitoring system is unique and one plan cannot cover all units.

Subitem (2). Because coal-fired EGUs are also subject to federal rules for controlling mercury emissions, the MPCA wants to harmonize monitoring procedures. This subitem directs an affected unit owner to include any federal rules that apply to monitoring in the plan requirements for operating monitors. It is reasonable to harmonize state and federal requirements so that efforts are not duplicated.

Item B. This item establishes a mercury monitoring requirement for units without continuous monitors. These units are directed to conduct stack testing annually. Coal-fired EGUs are one of the largest emitters, and will rely on properly operated pollution control equipment to lower mercury emissions. If these units will not employ continuous monitors, it is reasonable to conduct stack sampling to demonstrate that the selected operating parameters for the control equipment succeed in controlling mercury to meet the emission limit. It is reasonable to conduct ongoing testing to confirm that control equipment continues to be operated properly and in compliance with the emission limits.

To minimize the cost of annual testing, the MPCA is proposing a "superior compliance" option: testing may be performed on a three year cycle if the unit demonstrates performance at or below 50 percent of the emission limit. It is reasonable to adopt this kind of process, as achieving the lower emission rates is within the control of the operator through the selection of fuel, sorbent type, and sorbent injection rate. If operators are able to control mercury well enough, both the facility and the environment benefits by saving the cost of stack testing for two years, and minimizing mercury emissions.

Subitem (1). This subitem identifies the method for collecting a sample. It is reasonable to establish a common sampling method so that test results are comparable across all EGUs and to the regulatory limits. Further, without a common testing method it would not be possible to accurately determine progress toward the overall effort in achieving the TMDL of 789 lb/yr. The MPCA is proposing that Method 30B be used at units where owners have elected to rely on performance testing rather than continuous monitors to monitor mercury emissions. Method 30B is a long term mercury sampling method for measuring total vapor phase mercury emissions. Method 30B allows sampling times of several days to collect mercury emissions over a longer term to be able to quantify average mercury emissions without needing to understand its variability. This item limits the time a trap can be used to collect a sample to 10 days, because initially mercury emissions may not be well-understood or well-

controlled, and those conditions may cause overloading the sorbent tubes with mercury, invalidating the sampling event. The rule proposes that an owner or operator may elect to conduct subsequent tests that are only 10 days long because emission concentrations will be understood and the sorbent tubes collecting mercury for analysis will be sized accordingly.

Subitem (2). This subitem describes how the results from the Method 30B sampling shall be used to calculate compliance. It is reasonable to specify how compliance is to be determined so that results are consistent between tests, and can be compared to the emission limit.

Subitem (3). This subitem reminds the reader that existing Minnesota rules pertaining to performance testing continue to apply except as revised in this subpart. It is reasonable to continue in effect existing rules related to notifications, approvals, submittals, and other procedures for determining the accuracy and reliability of performance tests.

> *Subp. 6.* ***Monitoring provisions: CEMS for mercury.*** *Minn. Stat. § 216B.681 states that monitoring systems must "...use methods set forth in federal mercury regulations or such other methods as may be approved by the agency. The public utility shall report to the agency as public data the quality assured data produced from monitoring implemented pursuant to this section...".*

Quality assured data is an important component of an overall environmental protection program. The purpose of a quality assurance/quality control program for emission monitors is to ensure ongoing precision and accuracy. Continuous monitors must generate representative, accurate, and precise data since they are used to assess compliance with emission standards.

Because state statute requires data from continuous monitors to be quality-assured, the MPCA is proposing this subpart to establish operating and data quality determination requirements for continuous mercury monitors so that the utilities will be able to comply with the statutory requirement to produce quality assured data. It is reasonable to establish these requirements to comply with statutory language.

The MPCA reviewed final federal standards for producing quality-assured data to draft this subpart to avoid establishing state requirements that are separate or contrary to federal monitoring requirements. The MPCA's goal is to harmonize state-level requirements with final federal requirements in order for operating, recordkeeping and reporting of mercury continuous monitors to be less intrusive at the facility. The MPCA cannot simply refer to federal regulations to direct the operations of mercury emission monitors because the federal rule is aimed at determining compliance with an emissions rate, while state statute aims to lower the total mass of emissions from the boilers. Calculating total mass emissions is an additional step in developing the output from the continuous monitors, and rules are necessary to describe how to complete this additional calculation using the results of the continuous monitor.

Item A. Facilities already prepare monitoring plans under existing state rules to capture all monitoring requirements as they relate to a specific facility, giving the facility an opportunity to take into account site-specific conditions and to create a proposal for approval that meets the objectives of the rules. This item provides instructions specific to the operation of mercury emission monitors at coal-fired EGUs, a unique class of CEMs.

Subitem (1). This subitem requires that the required plan describe the span value of the monitor with a justification. "Span value" means the measurement range of the monitor. A justification for the selection of the span value is reasonable because the selection of the span value will determine how precise a measurement will be.

Subitem (2). This subitem requires the EGU owner or operator to describe which federal performance specification method will be used to certify the performance of the mercury monitors. "Certification test" of a monitor is a one-time event to check the entire monitoring system (e.g. probe, gas conditioning system, pollutant analyzer, and data recording system), and has been defined in Minn. R. 7011.1002, subp. 3, which references federal performance standards. This subitem reminds the reader of each of the tests to be included in the monitoring plan that describes the certification test. It is reasonable to require the plan to contain each of the tests because rules prohibit tests being conducted by employees of the facility, and so the owner or operator will need to hire a contractor. The monitoring plan will thus describe how the EGU owner or operator will direct work of their contractor and describe how the owner will use the data the contractor generates. Without each of the tests, the monitor is not certified and the data generated by the monitor cannot be relied on for compliance purposes.

Subitem (3). This subitem describes that the federal regulation should be used to conduct each of the daily tests performed after the completion of the certification test in subitem (2) to keep the monitor system generating accurate and precise data. It is reasonable to rely on existing federal standards to conduct these tests as the methods are already in place for the purpose of standardizing ongoing calibration tests of all types of emission monitors.

Subitem (4). This subitem requires a description of the calculations that will be used to convert the monitored values to the appropriate units of the emissions limit. Monitors measure concentration (mass/volume), while the emission limit is in terms of rate (mass/time period). Additional information related to stack flow and operating periods is needed. Because the calculation requires careful use of data and unit conversion, and will be used to determine whether the EGU is in compliance with the emissions limit, it is reasonable for the owner and operator and the MPCA agree to the calculation prior to collecting data.

Subitem (5). This subitem requires a description of how to substitute data in the event that the monitors are not working. Because the TMDL goal is to limit total mass emissions from the EGU, there must be a method in place to determine what likely mercury emission rates would be, should a monitor fail to operate. It is reasonable for the owner and operator to propose one in the monitoring plan so that the MPCA and the owner or operator can agree to the procedure upfront.

Item B. This item identifies the existing Minnesota rules that will be applicable to operating mercury monitors. The rules address recordkeeping and reporting of certification tests and ongoing data collection and monitor certification. It is reasonable to rely on existing requirements because operators of continuous monitors are already complying with these standards for providing reports of certification and data collection activity for other monitors already at the facility. This item continues the same expectation for mercury continuous monitors.

Item C. This item describes the frequency of quality assurance tests listed in Item A (4) that must be conducted on a routine basis to ensure that the monitor continuous to record accurate and precise data during the operation of emission monitors. These tests are common to all emission monitors currently in

use at EGUs and are already required by the requirements listed in Item B above. This part describes the frequency.

Subitem (1). This subitem requires a daily calibration error test. State rules already require a daily calibration test; the subitem is clarifying that the test has be conducted using the mid-or high-level calibration gas. It is reasonable to use these calibration gases so that the monitor is accurately reading mercury emissions at potentially higher concentrations. The rule states that no testing is necessary if the unit is not operating, a reasonable requirement to avoid any expectation that the unit must be started up from a cold state to conduct monitor calibration.

Subitem (2). This subitem states that single level system integrity tests are to be conducted weekly for systems with mercury converters, but are not required if daily calibrations required in subitem (1) are done with a National Institute of Standards and Technology-traceable source of oxidized mercury. This is a reasonable requirement as an integrity test is necessary to determine the ability of the monitor to transport and monitor a gas sample with oxidized mercury in it. The subitem establishes the same requirement as the federal rules for this test. It is reasonable to harmonize requirements and thereby avoid duplication of effort.

Subitem (3). This subitem establishes when linearity checks or three-level system integrity checks are necessary. The rule proposes the same schedule as federal regulations require for these tests. Because operators already conduct these checks for CEMs existing at EGUs for other pollutants, it is reasonable to use the same schedule for mercury continuous monitors.

Subitem (4). A schedule for the relative accuracy test audit (RATA) is necessary, as state rules do not establish a frequency for this test. This test measures the readings of a continuous monitor versus the readings of a reference stack sampling method. Like the previous requirement, the MPCA is proposing that this test be done on the same schedule as the RATAs of other CEMS already in use at an EGU to minimize disruptions to ongoing operations at an EGU.

The proposed rule also provides an opportunity for extending the schedule without requesting an extension from the Commissioner for non-quality assured operating quarters. Quality assured operating quarters are those calendar quarters where the emissions unit is operating for more than 168 hours within the quarter. Thus, the exemption is being provided for units that operate for very little time within the quarter. This is reasonable because EGUs must be running to conduct a RATA, and they must be running at least long enough to conduct the test. The Commissioner does not need to be told that a unit is not running, thus it is reasonable to allow the test period to be extended to a time until the unit resumes extended operations. A limit on the length of the extension ensures that the monitor is eventually re-tested.

Subitem (5). This subitem provides an automatic grace period of 720 continuous hours (which is 30 days) to conduct the RATA. Providing an automatic grace period relieves the operator and the Agency of needing to approve rescheduling of RATAs in case of outages, unavailability of testing companies, or other unforeseen activities and allows the facility to manage the scheduling of this test. The monitor remains in place and continues to collect data; therefore, a grace period is reasonable.

Item D. This item describes the required range of the concentrations of calibration gases required for certifying the accuracy of the monitor. The operator has been required in item C to conduct a series of tests that rely on calibration gases. The necessary calibration gases rely on the concentration of mercury

expected to be found in stack gases and the ability of the monitor to measure them. It is reasonable to specify calibration gas ranges in order to ensure the monitor's accuracy is being checked at the proper concentration levels and demonstrate the linearity of the monitor.

Subitems (1) to (4). These subitems define each of the calibration gases, "zero", "low", "mid-level", and "high". Because these terms are used elsewhere in the rule, it is reasonable that they be defined. The requirements are identical to the calibration gas requirements required by the federal utility mercury control standard. It is reasonable to use the federal standard for calibration gases because the same monitoring will be used to demonstrate compliance with any federal standard as well as these state requirements.

Subitem (5). This subitem allows alternatives if approved by the Commissioner. It is reasonable to establish this provision in order to allow for alternative scenarios on a case-by-case basis. Mercury monitoring is an evolving technology and changes to methodology may be appropriate with additional knowledge and understanding of the field. Allowing for an alternative to calibration gases allows for changes without requiring rule modifications.

Item E. This item relieves the monitor operator of conducting the procedure in Part 60 Appendix A called "bias adjustment", a procedure used for correcting biased CEM measurements, or "systematic" error, that occurs in the process of measurement. The application of mercury controls has been so effective in removing mercury that CEMS are measuring very close to their ability to accurately detect mercury. This condition is not true for CEMS of other pollutants like nitrogen oxides (NO_x) or sulfur dioxide (SO_2), which uses the same RATA test procedure as the mercury test. The RATA test procedures capture and limit both imprecision (random error) and measurement bias (system error) and must be removed from the results at CEMS for other pollutants to ensure that the total emissions measured is accurate. Because the procedures to correct for measurement bias results in a correction sometimes larger than the amount of mercury measured, applying the bias correction will result in a less precise measurement. Therefore it is reasonable to eliminate this correction to keep emission limit values precise.

Item F. To convert the concentration of mercury in flue gases measured with the mercury detector into mass emission rates, information from additional monitors is necessary. This item tells the operator to certify, operate, maintain and quality-assure the other CEMS according to EPA procedures Part 75, the acid rain monitoring rules. It is reasonable to require that all measurements used to calculate mercury emissions be quality assured so that the final calculation is also quality assured, meeting the requirements of Minnesota statutes to use quality assured data.

It is reasonable to use the monitoring requirements of the federal acid rain monitoring rules, because the procedures are already in use at most of the affected facilities for quality assurance/quality control (QA/QC) of the other monitors. Part 75 rules were initially promulgated in 1993, to establish requirements for the monitoring, recordkeeping, and reporting of SO_2, NO_X, and carbon dioxide (CO_2) emissions, volumetric flow, and opacity data from affected units under the Acid Rain Program. They have been amended so that States may require sources to comply in order to demonstrate compliance with pollutant mass emission reduction programs. As such, Part 75 rules are frequently referred to for standard operating practices for CEMS, thus it is reasonable to require that all CEMS be certified according to these procedures.

Item G. This item directs the operator of a coal-fired EGU to calculate one-hour averages by using the provisions of 40 CFR 60.13(h)(2), a requirement found in the general conditions for NSPS. Because the

CEMS logs mercury concentration data every 15 minutes, a procedure must be used to generate an hourly value, which is used later to calculate a 30-day rolling average. Because there are many ways of treating this information, and this information directly affects the determination of compliance with a standard, it is reasonable to standardize a procedure for this calculation.

Item H. The hourly values in item G are converted to 30-day rolling average for compliance purposes, and this item specifies the method to use. Because there are many ways of treating this information, and this information directly affects the determination of compliance with a standard, it is reasonable to standardize a procedure for this calculation.

Item I. The mercury reduction required in Subpart 4 can be determined as either an emissions rate or a percent reduction from the fuel. This item requires that the owner or operator must make the demonstration that mercury has been reduced. It is reasonable to include this provision otherwise there is no specific requirement to show that the mercury monitored is actually meeting the requirements of subpart 4.

Item J. This item simply establishes the initial period after rule promulgation when the first compliance period begins.

Subp. 7. Monitoring provisions; sorbent trap monitoring system. Minn. Stat. § 216B.681 states that monitoring systems must *"...use methods set forth in federal mercury regulations or such other methods as may be approved by the agency. The public utility shall report to the agency as public data the quality assured data produced from monitoring implemented pursuant to this section..."*

A sorbent trap system is a variation of continuous monitoring technology that was developed at utility boilers during the research into mercury controls to provide an inexpensive but reasonably accurate means of measuring mercury emissions. It has been developed to the point that it is now an acceptable means for measuring stack gases, and as a reference method for calibrating traditional continuous mercury monitors. Therefore, the MPCA is proposing in this rulemaking conditions for installing, operating and maintaining a sorbent trap system, providing owners or operators an alternative to a continuous mercury emission monitor.

Quality assured data is an important component of an overall environmental protection program. The purpose of a QA/QC program for emission monitors is to ensure ongoing precision and accuracy. Continuous monitors must generate representative, accurate, and precise data since they are used to assess compliance with emission standards.

Because state statute requires data from continuous monitors to be quality-assured, the MPCA is proposing this subpart to establish operating and data quality determination requirements of sorbent trap monitors so that the utilities will be able to comply with the statutory requirement to produce quality assured data. It is reasonable to establish these requirements to comply with statutory language.

The MPCA reviewed final federal standards for producing quality-assured data to draft this subpart to avoid establishing requirements separate or contrary to federal monitoring requirements. The MPCA's goal is to harmonize state-level requirements with final federal requirements in order for operating, recordkeeping and reporting of mercury monitors to be less intrusive at the facility. The MPCA cannot simply refer to federal regulations to direct the operations of mercury emission monitors because the federal rule is aimed at determining compliance with an emissions rate, while state statute aims to

lower the total annual mass of mercury released from the boilers. Calculating total mass emissions is an additional step in developing the output from the continuous monitors, and rules are necessary to describe how to complete this additional calculation using the results of the continuous monitor.

Item A. Facilities already prepare monitoring plans under existing state rules to capture all monitoring requirements as they relate to a specific facility, giving the facility an opportunity to take into account site-specific conditions and to create a proposal for approval that meets the objectives of the rules. It is reasonable to establish these requirements so that the MPCA and the facility owner or operator can agree to the means of data collection, as the data is relied on to demonstrate compliance with emission standards. Sorbent trap monitors are relatively new, and so it is reasonable to agree to the procedures for installation and operation of the monitor, including the methods for data collection, verification, and calibration of the monitor.

Subitem (1). This subitem requires the EGU owner or operator to describe which method will be used to certify the performance of the mercury monitors. "Certification test" of a monitor is a one-time event to check the entire monitoring system (e.g. probe, gas conditioning system, pollutant analyzer, and data recording system), and has been defined in Minn. R. 7011.1002, subp. 3; which references federal performance standards. This subitem reminds the reader of each of the tests to be included in the monitoring plan that describes the certification test. It is reasonable to require the plan to contain each of the tests because rules prohibit these tests being conducted by employees of the facility, therefore a contractor must be hired. The monitoring plan will thus describe how the EGU owner or operator will direct the work of their contractor and describe how the owner will use the data the contractor generates. Without each of the tests, the monitor is not certified and the data generated by the monitor cannot be relied on for compliance purposes.

Subitem (2). This subitem describes the federal regulation used to conduct each of the tests that must be conducted routinely after the completion of the certification test in subitem (1) to keep the monitor system generating accurate and precise data. It is reasonable to rely on existing promulgated federal standards to conduct these tests as the methods are already in place for the purpose of standardizing ongoing calibration tests of all types of emission monitors.

Subitem (3). This subitem requires that the plan describe the sampling period for the sorbent traps. With this system, a flue gas sample is pulled through a tube or tubes packed with carbon to capture mercury. The tube is taken to the laboratory where the mass of mercury captured in the tube is determined. The mercury capture ability of the sorbent tube could potentially be exhausted if the tube is subject to very high concentrations of mercury, and so the length of time the tube is allowed to remain in the stack must be established.

Subitem (4). The plan should address how the sampling system will be tested for leaks, so as to not dilute collected samples, as well as document the other quality assurance procedures needed to ensure data quality – for example, gas flow meter calibrations or verification of moisture removal. Because compliance determination relies on accurate data, and not all aspects of establishing procedures for this monitoring system can be described in rule form, it is reasonable to require a plan of the owner or operator to explain what site-specific procedures will be followed.

Subitem (5). This subitem requires a description of the calculations that will be used to convert the monitored values to the appropriate units of the emissions limit. Monitors measure concentration (mass/volume); the emission limit is in terms of rate (mass/time period). Additional information related

to stack flow and operating periods is needed. Because the calculation requires careful use of data and unit conversion, and will be used to determine whether the EGU is in compliance with the emissions limit, it is reasonable for the owner and operator and the MPCA agree to the calculation prior to collecting data.

Subitem (6) requires a procedure for marking sorbent tubes for tracking purposes. It is reasonable to track the periods of time that sorbent tubes were collecting data so that as samples are generated, the collected sample can be correlated with appropriate periods of time at the analysis lab and in reported results.

Subitem (7). This subitem requires a description of how to substitute data in the event that the monitors are not working. Because the TMDL goal is to limit total mass emissions from the EGU, there must be a method in place to determine what likely mercury emission rates would be, should a monitor fail to operate. It is reasonable for the owner and operator to propose one in the monitoring plan so that the MPCA and the owner or operator can agree to the procedure upfront.

Item B. This item identifies the existing Minnesota rules that will be applicable to operating mercury monitors. The rules address recordkeeping and reporting of certification tests and ongoing data collection and monitor certification. It is reasonable to rely on existing requirements because operators of continuous monitors are already complying with these standards for providing reports of certification and data collection activity for other monitors already at the facility. This item continues the same expectation for mercury continuous monitors.

Item C. This item describes the frequency of quality assurance tests listed in Item A (2) that must be conducted on a routine basis to ensure that the monitor continuous to record accurate and precise data during the operation of emission monitors. These tests are common to all emission monitors currently in use at EGUs and are already required by the requirements listed in Item B above. This part describes the frequency.

Subitem (1). A schedule for the relative accuracy test audit (or RATA) is necessary, as state rules do not establish a frequency for this test. Like the previous requirement, the MPCA is proposing that this test be done on the same schedule as the test at the other continuous monitors already in use, a reasonable timeframe because the activity is already scheduled, and is the least intrusive way of incorporating this test into existing operations. The proposed rule also provides an opportunity for extending the schedule without requesting an extension from the Commissioner for non-quality assured operating quarters. Quality assured operating quarters are those calendar quarters where the emissions unit is operating for more than 168 hours within the quarter. Thus, the exemption is being provided for units that operate for very little time within the quarter. This is reasonable because EGUs must be running to conduct a RATA, and they must be running at least long enough to conduct the test. The Commissioner does not need to be told that a unit is not running, thus it is reasonable to allow the test period to be extended to a time until the unit resumes extended operations. A limit on the length of the extension ensures that the monitor is eventually re-tested.

Subitem (2). This subitem provides an automatic grace period of 720 continuous hours (which is 30 days) to conduct the RATA. Providing an automatic grace period relieves the operator and the Agency of needing to approve rescheduling of RATAs in case of outages, unavailability of testing companies, or other unforeseen activities and allows the facility to manage the scheduling of this test. The monitor remains in place and continues to collect data; therefore, a grace period is a reasonable method.

Item D. This item relieves the monitor operator of conducting the procedure in Part 60 Appendix A called "bias adjustment", a procedure used for correcting biased CEMS measurements, or "systematic" error, that occurs in the process of measurement. The application of mercury controls has been so effective in removing mercury that CEMS are measuring very close to their ability to accurately detect mercury. This condition is not true for CEMS of other pollutants like NO_x or SO_2, which uses the same RATA test procedure as the mercury test. The RATA test procedures capture and limit both imprecision (random error) and measurement bias (system error) and must be removed from the results at CEMS for other pollutants to ensure that the total emissions measured is accurate. Because the procedures to correct for measurement bias result in a correction sometimes larger than the amount of mercury measured, applying the bias correction will result in a less precise measurement. Therefore it is reasonable to eliminate this correction to keep emission limit values precise.

Item E. To convert the concentration of mercury in flue gases measured with the mercury detector into mass emission rates, information from additional monitors is necessary. This item tells the operator to certify, operate, maintain and quality-assure the other CEMS according to EPA procedures Part 75, the acid rain monitoring rules. It is reasonable to require that all measurements used to calculate mercury emissions be quality assured so that the final calculation is also quality assured, meeting the requirements of Minnesota statutes to use quality assured data.

It is reasonable to use the monitoring requirements of the acid rain monitoring rules, because the procedures are already in use at most of the affected facilities for QA/QC of the other monitors. Part 75 rules were initially promulgated in 1993, to establish requirements for the monitoring, recordkeeping, and reporting of SO_2, NO_X, and CO_2 emissions, volumetric flow, and opacity data from affected units under the Acid Rain Program. They have been amended so that States may require sources to comply in order to demonstrate compliance with pollutant mass emission reduction programs. As such, Part 75 rules are frequently referred to for standard operating practices for CEMS, thus it is reasonable to require that all CEMS be certified according to these procedures.

Item F. This item provides the instructions for managing the mercury emissions rate data developed with the sorbent tube method. Because the method creates data that potentially represents periods of days and not individual hours, it is reasonable to provide instruction on how to create hourly values from the data.

Item G. This item provides the instructions for using the data from item F and calculating a 30-day average. The item directs the owner or operator to use the methods in federal regulations, which is reasonable because the final result of this item is used to determine compliance with a final limit. It is reasonable to use a standard calculation procedure so that every emissions source is subject to equitable treatment.

Item H. The mercury reduction required in subpart 4 can be determined as either an emissions rate or a percent reduction from the fuel. This item requires that the owner or operator must make the demonstration that mercury has been reduced. It is reasonable to include this provision otherwise there is no specific requirement to show that the mercury monitored is actually meeting the requirements of subpart 4.

Item I. This item simply establishes the initial period after rule promulgation when the first compliance period begins.

Subp. 8. Procedures for determining mercury content of fuel. Proposed mercury emission limits in Subpart 4 allow for an owner or operator to demonstrate that mercury emissions were reduced by 90 percent from the total amount of mercury present in the fuel. It is reasonable to have a specified procedure for determining the amount of mercury in the fuel because there are many variables in the calculation of the amount of mercury in fuel. Those variables require that samples be taken and laboratory tests be conducted. Fuel sampling and analysis have many biases; procedures have been created to minimize introducing bias into sampling and to improve the detection and measurement of chemicals in laboratory analyses. This new subpart directs an EGU owner or operator to use methods adopted by American Society for Testing and Materials (ASTM), a developer and provider of voluntary consensus technical standards for manufacturing, codes, and regulations. ASTM standards are commonly referenced in federal regulations and state rules and codes. The National Technology Transfer and Advancement Act (P. L. 104-113) requires government agencies to use privately developed standards whenever possible, to avoid developing duplicative standards.

Relying on standard procedures in a rule allows for consistent interpretation and compliance treatment between different coal-fired EGUs. Owners and operators routinely analyze coal for its chemical and physical content and properties for payment, determining compatibility with the combustion system in use, and to determine potential amounts of air pollution that can be released from burning the fuel.

The subpart proposes to exempt fuels used for startup, shutdown or periods of flame instability. Coal fired EGUs may use natural gas or oil for these periods; because these periods are short, and the fuels inherently have far less mercury than coal, the MPCA is simply exempting these fuels from the requirements.

Item A directs the owner or operator to collect samples of coal according to ASTM method 2234, Test Methods for Collection of a Gross Sample of Coal. This method gives direction for collecting the proper number of samples and their size (weight or volume). Because sample size affects how well coal characteristics have been characterized, it is reasonable to establish routine procedures.

Item B directs the owner or operator to use ASTM D2013/D2013M to prepare a composited sample. Compositing or combining samples reduces the costs by having to conduct fewer laboratory analyses.

Item C requires that the heat content of the fuel be determined. It is reasonable to measure heat content because the form of the mercury emissions limit is expressed as mass of mercury emitted for each unit of heat burned (pounds per Tbtu heat input).

Item D requires determining the moisture content of the coal using ASTM method D3173. Some calculations of coal characteristics require that the amount of moisture be measured. It is reasonable to select this ASTM method because there are several methods available to determine moisture, and so one must be selected. Because this method is referenced in other ASTM procedures, it is reasonable to also direct its use.

Item E states that mercury must be measured. Because compliance with a standard requires knowing how much mercury is in the coal, it is reasonable to require that the mercury be measured. The proposed item states that either an ASTM or EPA method can be used to measure mercury in the fuel sample, and directs the owner or operator to report the amount of mercury in terms of pounds of mercury for each ton of fuel burned.

Subp. 9. Demonstrating applicability of mercury control requirements. The mercury TMDL Implementation Plan exempts EGUs from undertaking reduction actions if the EGU emits less than five pounds of mercury annually. Because this exemption potentially allows an owner or operator to avoid significant investment in financial and technical resources, it is reasonable that a clear procedure be developed and followed to demonstrate that an EGU is exempt.

This subpart establishes a deadline for making this determination. The proposed rule requires that the test be conducted within one year after this rule is promulgated, because if the EGU emits more than five lb/yr, then it must prepare to comply with the EGU emission limits by the compliance deadline.

This subpart directs the owner or operator to measure mercury emissions for 30 days to determine the EGUs mercury emission rate. The MPCA believes that for an EGU to demonstrate that it is exempt from the rule's requirements, it is important to collect data for a reasonably extended period that measures fuel and operations variability at an EGU. Using the sorbent trap method allows for measuring mercury emissions for 30 days, a period of time which the MPCA believes to be a reasonable length of time for this demonstration. This requirement mirrors the methods established in EPA's Mercury and Air Toxics Rule for EGUs to determine whether an EGU is a "low emitting EGU" (LEE). An EGU owner or operator may use one 30-day mercury test to determine exemption status for both federal and state mercury control programs.

A number of conditions for conducting this test are listed in this subpart.

Item A states that the test must be performed according to existing Minnesota rules for performance testing. It is reasonable to use established requirements for performance testing to ensure the ongoing use of already well-known and understood procedures and practices. One of the standard provisions is Minn. R. 7017.2030. subp. 2., which requires a test plan be submitted to the MPCA prior to the test. Item A is directing that when this test plan is being prepared, the facility owner should describe the parametric data of the air pollution controls that will be monitored. After the test is completed and the EGU has been determined to emit less than five lb/yr, item G of this part directs the owner or operator to continue operating the air pollution control device at the same rates used during the test so as to maintain mercury controls. It is reasonable to identify the parametric data at the outset so that the MPCA and the owner or operator can agree on which parameters should be monitored for continuous compliance demonstration after the end of the performance test.

Item B. The item requires the use of EPA Method 30B. The sorbent trap method is capable of collecting mercury emissions over a longer time frame than typical stack testing methods, and when combined with a flue gas flow rate monitor, acts as a continuous mercury emission monitor, albeit in time increments of hours or days, rather than instantaneously or in minutes as a typical CEM does. The MPCA believes that this method is a reasonable application of this mercury measurement method, however if a method is developed in the future that would eliminate the need for replacing sorbent tubes, or the facility wants to install a mercury continuous emissions monitor, this item includes the clause that allows the owner or operator to propose an alternative, upon the approval of the Commissioner. It is reasonable to allow alternative methods as just described, and reasonable to require approval by the Commissioner. There are many methods available to measure mercury; however, the MPCA wants to approve the method to be used so that the same level of precision and accuracy is achieved as would be achieved when using Method 30B.

Item C. This item requires that the tip of the probe be placed in a specific location in the stack because the method does not describe this aspect for boilers. Second, this part states that at least three samples must be taken of equal length, and that no one sample should be longer than 10 days. A flue gas sample is pulled through a tube or tubes packed with carbon to capture mercury. The tube is taken to the laboratory where the mass of mercury captured in the tube is determined. The mercury capture ability of the sorbent tube could potentially be exhausted if the tube is subject to very high concentrations of mercury, and so the length of time the tube is allowed to remain in the stack is limited by rule so as to not invalidate the test data.

Item D. This item describes the procedures for collecting other information needed for calculating the total amount of mercury emitted from a unit. A number of different methods of measuring gas diluents (CO_2 or O_2) are provided; the owner or operator is free to choose any option, although most already have continuous diluent monitors to report acid gas emissions data to the EPA. These conditions require that stack flow monitors be certified by the procedures listed (which are routine procedures for these monitors). It is reasonable to require flow monitors to be certified as accurate so that the final calculation is accurate.

Item E. This item lists the information needed for calculating the total mass of mercury emitted, if the owner or operator wants to complete the calculation based on the total operating time of the unit. It is reasonable for stack flow rate monitors to be certified by the procedures listed (which are routine procedures for these monitors). It is reasonable to require flow monitors to be certified as accurate so that the final calculation is accurate.

Item F describes the calculation procedure for determining the mass emissions based on the information collected in items A through E. The MPCA is requiring a calculation of emissions likely emitted during the year, called the "actual emissions", and not a worst case estimate of the mass of mercury that potentially could be emitted under the permit. The calculation of "actual emissions" is different from the calculation required in the air emissions permit rules. It is reasonable to describe how to make the calculation so that the calculation is done the same way by all the affected units, and that the treatment of data is the same so as to assure the quality of the data.

Item G is requiring that parametric data of the operating rates of the air pollution control devices be measured as well; if the parameters remain the same as they were during stack testing, then the MPCA has assurance that mercury emission rates will not likely change, and the determination that the unit is exempt will hold true over time.

Item H requires that this test be conducted every five years to show that the mercury emission rates stay the same and the unit exemption is still allowed to apply. Because equipment wears out, it is reasonable to have a routine demonstration that emission rates have not exceeded the threshold described in subpart 3.

Subp. 10. Incorporations by reference. This subpart incorporates the contents of ASTM methods and EPA testing methods identified elsewhere in the rule part. Because the contents of the methods were not included in the rule, it is reasonable to state that the entire reference standard is a part of this rule. The incorporation by reference format has been approved by the Minnesota Revisor of Statutes.

PART 7011.0563 INCORPORATION OF EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FROM COAL AND OIL-FIRED ELECTRIC UTILITY STEAM GENERATORS.

Part 7011.0563 incorporates by reference the federal regulation entitled "National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-fired Electric Utility Steam Generating Units" (NESHAPs) (40 CFR Part 63 Subp. UUUUU).

The EPA delegated the NESHAPs program to the MPCA in a *Federal Register* notice dated July 23, 2002 (67 FR 48036). The notice spelled out the procedure for delegation of as yet to be delegated standards, such as this one. The process includes a commitment by MPCA to incorporate the federal standards by reference into state rules. Additionally, the EPA and MPCA executed a memorandum of agreement (MOA) to establish procedures to facilitate federal delegation of authority to implement and enforce standards (Attachment 4). The implementation of NESHAPs was automatically delegated to the MPCA under the MOA. Delegation of enforcement requires that the NESHAP be incorporated into state law. This step completes the delegation by giving MPCA implementation and enforcement authority for this standard. Also, because the EPA retains some authorities and will not delegate them to the MPCA, the proposed part 7011.0562 also identifies that part of the NESHAP that will not be delegated.

This rule is needed in order to fulfill the MPCA's delegation commitment and to avoid confusion regarding whether the EPA or MPCA will be responsible for the implementation and enforcement of the standard. Once MPCA has established primacy in enforcement of a standard, facilities that are subject to the standard need only communicate and report to the MPCA when operating under the standard. If the MPCA did not complete the delegation process, affected facilities would encounter duplication of submittals to the EPA and MPCA, leading to uncertainty regarding who makes compliance decisions. The rules will apply to facilities whether or not the MPCA incorporates them into state rule. It is reasonable to incorporate these standards by reference in order to avoid duplicative reporting requirements and confusion regarding enforcement of rules.

WASTE COMBUSTORS

The rules in parts 7011.1201 to 7011.1285 regulate the release of pollutants from solid waste incinerators operating in Minnesota. They were adopted in 1994 to address the combustion of non-hazardous wastes.

Since Minnesota first adopted rules addressing air emissions from waste combustors, the EPA has promulgated separate standards of performance for municipal solid waste, medical waste incinerators, sewage sludge incinerators and commercial and industrial waste incinerators. The federal performance standards are more stringent than current state rules limiting air emissions from incinerators. The federal standards contain mercury emission limits, and their application will help Minnesota achieve the reduction necessary to achieve the statewide TMDL of 789 lb/yr.

In this rulemaking, the MPCA proposes to adopt the New Source Performance Standard (NSPS) for large municipal waste combustors (MWCs), medical waste incinerators, sewage sludge incinerators, and commercial and industrial solid waste incinerators. The MPCA proposes to adopt the model rules in the emission guidelines (existing sources) for sewage sludge incinerators, and commercial and industrial solid waste incinerators. This is the first step necessary in order to obtain delegation authority from the EPA for implementation and enforcement of the NSPS and emission guidelines.

Existing state rules in parts 7011.1201 to 7011.1285 therefore needs to be amended to accommodate federal rules. For example, federal rules classify solid waste incinerators based on the type of waste they are burning (sewage sludge, industrial waste, medical waste) where Minnesota rules are based on the size of the combustion unit first, and then the type of waste being burned.

PART 7011.1201 DEFINITIONS.

Subp. 12. **Class D waste combustor.** This subpart is proposed for repeal because "Class D" waste combustors in Minnesota were commercial/industrial incinerators that existed at the time of rule adoption. Rather than comply with the requirements of the waste combustor rule, Class D waste combustors in Minnesota ceased operating by the compliance deadline. As a result, there are no longer any facilities in Minnesota meeting the definition, making this class of waste combustor obsolete. It is reasonable to repeal rules that are no longer needed.

Subp. 13. **Class I waste combustor.** This subpart is being amended by adding the condition that the waste combustor must be burning mixed municipal solid waste. This distinction is necessary to distinguish the application of the standards of performance in Minn. R. 7011.1201 to 7011.1285 from the standards of performance under the commercial or industrial solid waste incinerator (CISWI) standard. This revision is necessary because to be subject to the Class I standards of performance, the unit needs only be of the size and age described in this subpart, irrespective of the type of waste being combusted. With the addition of federal standards for commercial/industrial waste combustors, it is now important to distinguish the type of waste being burned. If this distinction is not made, a waste combustor could be large enough to be a Class I unit under state rules for waste combustors, and also be subject to the CISWI rules. The CISWI standards are sufficiently stringent that there is no need for the state to impose Class I standards regulating air emissions from a CISWI. The definition of Class I units is being amended so that the state rules continue to regulate MWCs operating in Minnesota, as originally promulgated in 1994.

Subp. 14. **Class II waste combustor.** This subpart is being amended adding the condition that the waste combustor must be burning mixed municipal solid waste, for the same reasons that the definition of Class I requires revision. It is reasonable to include this description to clarify the appropriate application of these standards.

Subp. 16a. **Commercial or industrial solid waste incinerator.** This proposed subpart contains a new definition that is consistent with the federal definition in the newly adopted federal regulation. It is reasonable to establish this definition so that regulated parties are aware of what this term means. The definition is needed to direct the reader to the new standards.

Subp. 43a. **Resinated wood.** The EPA categorically defined resinated wood as a fuel (40 CFR § 241.4). The MPCA does not intend to regulate this nonhazardous industrial byproduct differently than already regulated under federal rules. This proposed subpart would incorporate the federal definition for resinated wood by referring to the definition in 40 CFR § 241.2. In this way, the definition of this material is common to both state and federal rules so that the material is regulated according to the federal rules.

Subp. 46. **Waste combustor.** This existing subpart is being revised to clarify the treatment of wood and paper mill wastewater treatment plant sludge. The EPA undertook rulemaking to define nonhazardous

solid wastes in order to determine the applicability of the federal air emission standards for the commercial/industrial waste incinerator standard and industrial boiler standard when burning industrial byproducts (see *Commercial and Industrial Solid Waste Incineration Units: Reconsideration and Final Amendments; Non-Hazardous Secondary Materials That Are Solid Waste; Final Rule*, 78 Fed. Reg. 9112 (2013)).

The EPA categorically defined resinated wood, and, if combusted onsite, paper and pulp wastewater treatment plant sludge, as a fuel (40 CFR § 241.4). Pulp and paper industries operating in Minnesota have already been exempted from the waste combustor rule because they met the standards for exemption within this definition. The federal rules exempt from waste combustor status, boilers combusting any amount of sludge even if that amount is greater than 30 percent. As the MPCA does not intend to regulate this nonhazardous industrial byproduct differently than already regulated under federal rules, the state definition needs to be revised. In this way, state waste combustor rules intended to control emissions from the combustion of solid waste will mirror federal rules that also regulate solid waste combustion. When federal programs are adequate to address Minnesota's environmental protection goals or standards, it is reasonable to adopt those federal programs. Deferring to a federal emission standard avoids the confusion of duplicate state and federal standards.

PART 7011.1215 APPLICABILITY OF STANDARDS OF PERFORMANCE FOR WASTE COMBUSTORS.

Subpart. 1. **Waste combustors.** This existing subpart describes when a waste combustor is, and is not, subject to these standards. This subpart has been amended several times to include new exemptions from the waste combustor rule, and is being amended again in this rulemaking. The numbering of this subpart is thus being changed to allow for additional exemptions. It is reasonable to clarify references to other rules to ease understanding and thus compliance.

Subp. 2. **Co-fired facilities.** With the promulgation of federal performance standards for existing and new boilers and process heaters, some of these sources may now be considered co-fired units under federal rules with specific compliance requirements. This subpart is being amended to eliminate the potential inference that the only requirement is to comply with state boiler or process heater rules. Emission units that are considered co-fired units (already defined in Minn. R. 7011.1201, subp. 17) must comply with the appropriate federal standard of performance, in addition to state rules regulating boilers and process heaters. It is reasonable to make this change to not lead the reader to believe that complying with state rules might exempt the source from complying with other, potentially more stringent, rules.

Subp. 2c. **Commercial and industrial solid waste incinerators.** This new subpart is being added to this part to describe how emission units in Minnesota burning commercial and industrial solid waste will comply with the recently adopted federal emission standards. The federal emission standards for CISWI are being incorporated by reference through this rulemaking in a new rule, parts 7011.1360 to 7011.1370. The federal standards offer a higher degree of environmental protection than currently provided for in state rule. Because the federal standards are more restrictive than existing standards in the state waste combustor rules, and apply to a CISWI in Minnesota, it is reasonable to exempt CISWI from complying with the provisions of the state waste combustor rule.

Subp. 4. **Standards.** This subpart is modified by removing a reference to Minn. R. 7011.1231. It is reasonable to remove this reference because this part is proposed for repeal.

Subp. 6. **Transition for Class D, III, or IV waste combustors.** This subpart is proposed for repeal because this transition period ended on February 1, 1996. The affected units were required to cease operating or upgrade their emission controls by this date. If the MPCA were to find any units today that have not complied, the MPCA would take enforcement action and establish compliance requirements within the enforcement action. It is reasonable to repeal rules that are no longer needed.

PART 7011.1225 STANDARDS OF PERFORMANCE FOR WASTE COMBUSTORS.

Subp. 4. **Class D waste combustors.** This subpart is proposed for repeal because this rulemaking is adopting federal standards of performance that are more stringent than existing state standards for these units. The federal rules categorize this class of waste combustors differently from the state rules for applying the standards of performance, and are more stringent. "Class D" waste combustors in Minnesota were commercial/industrial incinerators. There are no longer any facilities in Minnesota meeting the definition of Class D. Because federal rules are more stringent and the Class D waste combustors no longer operate in Minnesota, it is reasonable to remove this provision from state rules.

PART 7011.1290 INCORPORATION BY REFERENCE OF NEW SOURCE PERFORMANCE STANDARD BY REFERENCE.

Since incorporated in 2008 in Minn. R. 7011.1290, the federal new source performance standard affecting new large MWCs was revised by EPA. This part is therefore proposed for repeal because this rulemaking is adopting new part 7011.1291 incorporating the revised federal new source performance standard, as well as including additional conditions that address the MPCA's authority in regulating new large MWCs, and clarifying responsibilities of these units to comply with conditions in Minnesota Statutes. The MPCA views this as a matter of "housekeeping" related to this performance standard. It is reasonable to modify rules to clarify their application.

NEW SOURCE PERFORMANCE STANDARDS FOR SOLID WASTE INCINERATORS

PART 7011.1291 INCORPORATION BY REFERENCE OF NEW SOURCE PERFORMANCE STANDARD FOR NEW LARGE MUNICIPAL WASTE COMBUSTORS

Subpart 1. **Incorporation by Reference.** This subpart incorporates a federal NSPS for new large MWCs. The current delegation agreement between the EPA and the State of Minnesota requires that for an NSPS standard to be delegated to the state for implementation and enforcement, the standard must first have the force of law in Minnesota. The MPCA adopts this NSPS by reference to comply with this condition of the delegation agreement (Attachment 5).

This rule is needed in order to fulfill the MPCA's delegation commitment and to avoid confusion regarding whether the EPA or MPCA will be responsible for the implementation and enforcement of the standard. Once MPCA has established primacy in enforcement of a standard, facilities that are subject to the standard need only communicate and report to the MPCA when operating under the standard. If the MPCA did not complete the delegation process, affected facilities would encounter much more duplication of submittals to the EPA and MPCA, leading to uncertainty regarding who makes compliance decisions. The rules will apply to facilities whether or not the MPCA incorporates them into state rule. It

is reasonable to adopt them in order to avoid duplicative reporting requirements and confusion regarding enforcement of rules. It is reasonable to make the above changes for ease of reading and to inform regulated parties about the delegated status of the program to the MPCA.

This part incorporates federal NSPS standards for large MWCs into state regulation and clarifies that certain decisions are not delegated to Minnesota.

This subpart also calls out the portions of the federal standards that are not delegated to states. The EPA administrator retains authority to make all decisions identified in 40 CFR 60.50b (n). It is necessary to include this reference in the rule so that the reader understands the limits of the MPCA's authority to regulate facilities under 40 CFR 60.50b.

In addition, the federal NSPS includes emission limits for mercury applicable to new large MWCs. The mercury control requirements of the federal rule will aid in minimizing mercury releases from this source type and the MPCA will be able to track compliance with this standard as part of the TMDL Implementation Plan. For these reasons, it is reasonable to adopt this rule.

Subp. 2. **Exceedance of emission limits.** As described in the statement of reasonableness of proposed part 7011.1340, Minn. Stat. § 116.85 establishes specific requirements for incinerators that exceed emission limits. This subpart reminds the reader that additional requirements are contained elsewhere in Minnesota rules.

PART 7011.1292 INCORPORATION BY REFERENCE OF NEW SOURCE PERFORMANCE STANDARD FOR NEW HOSPITAL/MEDICAL/INFECTIOUS WASTE INCINERATORS

Subpart 1. **Incorporation by Reference.** This subpart incorporates a federal NSPS for new hospital/medical/infectious waste incinerators. The current delegation agreement between the EPA and the State of Minnesota requires that for a NSPS standard to be delegated to the state for implementation and enforcement, the standard must first have the force of law in Minnesota (Attachment 5). The MPCA adopts this NSPS by reference to comply with this condition of the delegation agreement.

This rule is needed in order to fulfill the MPCA's delegation commitment and to avoid confusion regarding whether the EPA or MPCA will be responsible for the implementation and enforcement of the standard. Once MPCA has established primacy in enforcement of a standard, facilities that are subject to the standard need only communicate and report to the MPCA when operating under the standard. If the MPCA did not complete the delegation process, affected facilities would encounter much more duplication of submittals to the EPA and MPCA, leading to uncertainty regarding who makes compliance decisions. The rules will apply to facilities whether or not the MPCA incorporates them into state rule. It is reasonable to adopt them in order to avoid duplicative reporting requirements and confusion regarding enforcement of rules. It is reasonable to make the above changes for ease of reading and to inform regulated parties about the delegated status of the program to the MPCA.

This part incorporates federal NSPS standards for hospital/medical/infectious waste incinerators into state regulation and clarifies that certain decisions are not delegated to Minnesota.

This subpart also calls out the portions of the federal standards that are not delegated to states. The EPA administrator retains authority to make all decisions identified in 40 CFR 60.50c(i). It is necessary to include this reference in the rule so that the reader understands the limits of the MPCA's authority to regulate facilities under 40 CFR 60.50c.

In addition, the federal NSPS includes emission limits for mercury applicable to new hospital/medical/infectious waste incinerators. The mercury control requirements of the federal rule will aid in minimizing mercury releases from this source type and the MPCA will be able to track compliance with this standard as part of the TMDL Implementation Plan. For these reasons, it is reasonable to adopt this rule.

Subp. 2. **Exceedance of emission limits.** As described in the statement of reasonableness of proposed part 7011.1340, Minn. Stat. § 116.85 establishes specific requirements for incinerators that exceed emission limits. This subpart reminds the reader that additional requirements are contained elsewhere in Minnesota rules.

PART 7011.1293 INCORPORATION BY REFERENCE OF NEW SOURCE PERFORMANCE STANDARD FOR NEW SMALL MUNICIPAL WASTE COMBUSTORS

Subpart 1. **Incorporation by Reference.** This subpart incorporates a federal NSPS for new small MWCs. The current delegation agreement between the EPA and the State of Minnesota requires that for a NSPS standard to be delegated to the state for implementation and enforcement, the standard must first have the force of law in Minnesota (Attachment 5). The MPCA adopts this NSPS by reference to comply with this condition of the delegation agreement.

This rule is needed in order to fulfill the MPCA's delegation commitment and to avoid confusion regarding whether the EPA or MPCA will be responsible for the implementation and enforcement of the standard. Once MPCA has established primacy in enforcement of a standard, facilities that are subject to the standard need only communicate and report to the MPCA when operating under the standard. If the MPCA did not complete the delegation process, affected facilities would encounter much more duplication of submittals to the EPA and MPCA, leading to uncertainty regarding who makes compliance decisions. The rules will apply to facilities whether or not the MPCA incorporates them into state rule. It is reasonable to adopt them in order to avoid duplicative reporting requirements and confusion regarding enforcement of rules. It is reasonable to make the above changes for ease of reading and to inform regulated parties about the delegated status of the program to the MPCA.

In addition, the federal NSPS includes emission limits for mercury applicable to new small MWCs. The mercury control requirements of the federal rule will aid in minimizing mercury releases from this source type and the MPCA will be able to track compliance with this standard as part of the TMDL Implementation Plan. For these reasons, it is reasonable to adopt this rule.

Subp. 2. **Exceedance of emission limits.** As described in the statement of reasonableness of proposed part 7011.1340, Minn. Stat. § 116.85 establishes specific requirements for incinerators that exceed emission limits. This subpart reminds the reader that additional requirements are contained elsewhere in Minnesota rules.

PART 7011.1294 INCORPORATION BY REFERENCE OF NEW SOURCE PERFORMANCE STANDARD FOR OTHER SOLID WASTE INCINERATION UNITS

Subpart 1. **Incorporation by Reference.** This subpart incorporates a federal NSPS for "other" solid waste incinerators, as defined by the federal regulations. The current delegation agreement between the EPA and the State of Minnesota requires that for a NSPS standard to be delegated to the state for implementation and enforcement, the standard must first have the force of law in Minnesota (Attachment 5). The MPCA adopts this NSPS by reference to comply with this condition of the delegation agreement.

This rule is needed in order to fulfill the MPCA's delegation commitment and to avoid confusion regarding whether the EPA or MPCA will be responsible for the implementation and enforcement of the standard. Once MPCA has established primacy in enforcement of a standard, facilities that are subject to the standard need only communicate and report to the MPCA when operating under the standard. If the MPCA did not complete the delegation process, affected facilities would encounter much more duplication of submittals to the EPA and MPCA, leading to uncertainty regarding who makes compliance decisions. The rules will apply to facilities whether or not the MPCA incorporates them into state rule. It is reasonable to adopt them in order to avoid duplicative reporting requirements and confusion regarding enforcement of rules. It is reasonable to make the above changes for ease of reading and to inform regulated parties about the delegated status of the program to the MPCA.

This part incorporates federal NSPS standards for other solid waste units into state regulation and clarifies that certain decisions are not delegated to Minnesota.

This subpart also calls out the portions of the federal standards that are not delegated to states. The EPA administrator retains authority to make all decisions identified in 40 CFR 60.2889(b). It is necessary to include this reference in the rule so that the reader understands the limits of the MPCA's authority to regulate facilities under 40 CFR 60 subpart EEEE.

In addition, the federal NSPS includes emission limits for mercury applicable to other solid waste incinerator units. The mercury control requirements of the federal rule will aid in minimizing mercury releases from this source type and the MPCA will be able to track compliance with this standard as part of the TMDL Implementation Plan. For these reasons, it is reasonable to adopt this rule.

Subp. 2. **Exceedance of emission limits.** As described in the statement of reasonableness of proposed part 7011.1340, Minn. Stat. § 116.85 establishes specific requirements for incinerators that exceed emission limits. This subpart reminds the reader that additional requirements are contained elsewhere in Minnesota rules.

INCINERATORS

PART 7011.1340 EMISSION LIMITS EXCEEDANCE REQUIREMENTS.

This new part establishes the procedures and operating requirements that an owner or operator of an incinerator must follow to comply with the conditions set forth in Minn. Stat. § 116.85. The statute applies to incinerators that have mercury or dioxin standards, both of which are contained in the federal emission guidelines and NSPS for incinerators being incorporated by reference elsewhere in this

rulemaking. The statute requires incinerator operators to take specific actions to return the incinerator to compliance, or shut down.

A rule is necessary to lay out these procedures because the statute does not provide definitions for important terms and concepts contained within the statute, and because there is disincentive to comply due to the severe consequences of an emissions limit exceedance. The MPCA believes that by defining terms and describing a specific course of action in rule, there is a higher likelihood of compliance with the requirements of the statute.

This rulemaking is not creating any new conditions but rather is extending existing conditions to apply to combustion facilities that are now classified as waste incinerators. The MPCA is proposing one single rule part that references each rule applicable to the incinerators: Minn. R. 7011.1350, 7011.1355, 7011.1360, and 7011.1370. In this way, the same procedure will be followed by all the combustion facilities classified as waste incinerators.

Subp. 1. **Applicability.** This new subpart describes which type of emission units the conditions in this part will apply to. It is reasonable to clearly state what type of sources are affected by this rule part so that the intent of the statute is carried out—incinerators are subject to the specific requirements of this part if emission exceedances are measured.

Subp. 2. **Definitions.** This subpart defines two important concepts in use in Minn. Stat. § 116.85.

Item A. The decision to shut down an incinerator requires the decision be based on "accurate and valid data." In the absence of a statutory definition, a definition of this phrase is necessary in order to start the clock for returning the facility to compliance if an emissions violation is measured. Some data is collected through the use of a continuous emissions monitor, and Item A states that upon recording that data, it is considered accurate and valid. This is reasonable because there are many existing rules establishing QA/QC procedures on CEMS so that the CEMS are always measuring air emissions accurately.

Item A proposes that the report prepared for the operator by the independent testing lab for a performance (also called "stack") test is to be considered accurate and valid 14 days after the facility receives the report from the testing lab. Stack testing is a process of collecting flue gas samples, then analyzing each sample by strict methods with specific quality assurance procedures defined by state and federal rules. Some time is needed between collection and sample to complete the analysis and prepare the resulting report. The incinerator operator receives the report first, and then is responsible for forwarding it to the MPCA. The proposed rule will declare the contents of the final report "accurate and valid" 14 days after the incinerator owner/operator receives it, unless the owner/operator can tell the MPCA how the report is not accurate. Without making such a determination, there is incentive to delay determining when the data in a stack test is accurate, because a consequence of failing a stack test could be to shut the incinerator down. (Minn. Stat. 116.85, subd. 3.) A point in time must be chosen to properly implement the statutory requirements.

It is reasonable to define this data so that it is clear when the statutory provisions apply.

Item B. The statute describes the provisions for shutdown as being initiated after an incinerator has completed "normal startup". Because incinerators have routine start-up and shutdown, a definition of "normal startup" is needed to determine when the statutory provisions are to be applied.

The language of the statute makes it clear that a period of shutdown or trial is allowed for operation after initial startup. The initial operation of a new incinerator requires a period of time to make sure that all equipment works as designed through startup to full load to shutting down safely. The statute clearly means to allow a period of time for this shutdown to happen; excess emissions may occur during this period and are not to be considered a violation of a permitted limit. After this shutdown period however, excess emissions that exceed permit limits are subject to the conditions of the statute. The definition of normal startup in item A in this proposed rule is to define the point in time where shutdown is no longer allowed and the provisions of the statute apply. It is reasonable to provide a standard definition because the consequences are potentially so severe that there could be a preference to stay in "shutdown" for an unreasonably long period of time.

Subp. 3. **Exceedance of continuously monitored emission limits.** This subpart establishes the procedures and operating requirements that an owner or operator of a CISWI must comply with in the event of a of a continuously monitored emissions exceedance. Subpart 3 establishes procedures to guide implementation of the conditions set forth in Minn. Stat. § 116.85. The statute applies to incinerators that have standards for a number of pollutants, including mercury or dioxin, both of which are contained in the federal emission guidelines for CISWI. The statute requires incinerators to shut down if repairs or modification required to return an emissions unit to compliance cannot be completed within 72 hours of the recording of an exceedance.

The procedures described in this rule part mirror the requirements contained in existing Minn. R. 7011.1260, applicable to medical and MWCs. The provisions for responding to excess emissions as measured by continuous emissions monitors were first established when the same provision was adopted for waste combustors in Minn. R. 7011.1260, subd. 7. To comply with the statute, it is necessary and reasonable to adopt the following requirements.

Item A is reasonable because while existing Minn. R. 7017.1110 already requires excess emissions reports on a quarterly basis, Minn. Stat. § 116.85, subd. 2 requires an incinerator owner or operator to report excess continuously monitored emissions to the Commissioner immediately. Since failure to report could give rise to an enforcement action, is it reasonable to require that an exceedance be reported as soon as reasonably possible.

Items B, C and D describe the reasonable sequence of events the owner or operator are to take to either return the incinerator to compliance, or to cease operations so that the operator will be in compliance with the statutory requirements.

Item B specifically requires the owner or operator to undertake efforts to repair the incinerator once excess emissions occur. It is reasonable to always take action to minimize emissions to prevent environmental harm. It is reasonable to clarify that the MPCA expects action to be undertaken, but that no violation of the statutory conditions will have occurred unless excess emissions continue past the 72nd hour.

Item C requires the owner or operator to shut down the CISWI if it cannot be returned to compliance within 72 hours. This provision reflects the specific intent of Minn. Stat. § 116.85, subd. 2.

Item D requires the owner or operator to demonstrate compliance upon completion of repairs, describes notification to the Commissioner prior to resuming operation, and specifies the data necessary to demonstrate compliance with the emission limit.

This procedure provides the Commissioner with sufficient information related to a continuously monitored pollutant. This is reasonable because a continuous monitor will collect and record data immediately, allowing a facility to adjust operations to eliminate the monitored exceedance. The process simply requires notice; it does not require a response from the MPCA before the owner or operator can take action to correct the exceedance. It is reasonable to have a process as provided in this subpart because the consequences of having an exceedance could be so severe, that is, shutting the unit down, that there is a disincentive to report exceedances. By establishing a procedure, sources will be unable to make the claim the requirements for reporting exceedances were vague or unknown, therefore, the owner or operator will be less likely to fail to report an exceedance.

Subp. 4. **Exceedance of emission limits determined through performance testing.** This subpart establishes the operating requirements that an owner or operator of an incinerator must comply with in the event that a performance test demonstrates an exceedance of an emissions limit for which compliance is determined through a performance test. Subpart 3 adopts the requirement set forth in MInn. Stat. § 116.85. This statute requires an incinerator to shut down if repairs or modifications required to return to compliance cannot be completed within 60 days.

Because the potential consequence of exceeding an emissions limit is severe, there is disincentive to report exceedances. By establishing a procedure, an incinerator owner or operator will know the proper procedures for reporting an exceedance. It is reasonable to have a process that describes the roles and responsibilities of the incinerator owner, the MPCA, and the stack test company.

Item A of this subpart describes the responsibilities of the owner or operator of an incinerator to comply with the statutory requirement to cease operating if there is an emissions exceedance. Item B then describes conditions to be satisfied to resume operating an incinerator after shutdown due to an emissions exceedance.

Item A identifies that emission limits are contained in part 7011.1355, subp. 2, 7011.1365, and 7011.1370, subp.1 of this rule (the incorporation by reference of federal emission guidelines) and the facility permit. Both the rule and the permit impose emission limitations; the conditions of the rule still apply as applicable requirements even if the requirements have not been incorporated into the facility's air emissions permit. Subitem (1) requires that the owner or operator immediately report the exceedance to the commissioner because the statutory deadline to cease operating is 60 days from the initial notification if the facility cannot demonstrate a return to compliance. The owner or operator is required to follow the reporting requirements of Minn. R. 7019.1000 which is reasonable because these rules are existing requirements for incinerators.

Subitem (2) is reasonable because it makes it clear that during the intervening 60 days, the owner/operator must return the unit to compliance, rather than simply continue to operate.

Subitem (3) is reasonable because the Commissioner, not the facility, should have the responsibility to determine whether the facility is complying with the emission standard. Because of the disincentive to ignore the duty to cease operating, it is reasonable to put this determination within the purview of the Commissioner and not leave it to the facility to make such a determination of compliance.

Item B describes the conditions necessary to restart the incinerator. This item requires owners and operators to comply with conditions established by the Commissioner for restarting the incinerator after noncompliance has been established. Since the shutdown provision was initially adopted by the Minnesota Legislature, there have been a number of occasions where emission limits have been violated, and the requirements of the statute have applied. Emission violations have occurred at waste combustors for a number of reasons: chemical injection rates were not maintained, air pollution control equipment failed, or emission exceedances identified previously unknown equipment failures. Each exceedance, and the likely cause of the exceedance, has been unique. MPCA staff work with incinerator operators to help quickly identify remedies, and are able to approve the scheduling and test plans for the stack test needed to demonstrate a return to compliance. Most exceedances are quickly resolved, but because of the myriad of potential causes of a violation, it is not reasonable to describe the conditions under which the Commissioner can approve the restart of an incinerator that has been previously shutdown. It is reasonable that a 10 day retest notification be provided so that the MPCA can schedule staff to witness performance tests if necessary.

SEWAGE SLUDGE INCINERATORS

PART 7011.1350 INCORPORATION OF NEW SOURCE PERFORMANCE STANDARD FOR SEWAGE SLUDGE INCINERATORS BY REFERENCE.

Subpart 1 incorporates federal NSPS standards for sewage sludge incinerators into state regulation and clarifies that certain decisions are not delegated to Minnesota. The title of this existing rule is amended in order to distinguish these standards from standards for other types of incinerators found in this rule chapter.

Item A. This item contains existing language that is being renumbered for ease of reading.

Item B. This item incorporates a federal NSPS for new sewage sludge incinerators. The current delegation agreement between the EPA and the State of Minnesota requires that for a standard to be delegated to the state for implementation and enforcement, the standard must first have the force of law in Minnesota. The MPCA adopts this NSPS by reference to comply with this condition of the delegation agreement.

This rule is needed in order to fulfill the MPCA's delegation commitment and to avoid confusion regarding whether the EPA or MPCA will be responsible for the implementation and enforcement of the standard. Once MPCA has established primacy in enforcement of a standard, facilities that are subject to the standard need only communicate and report to the MPCA when operating under the standard. If the MPCA did not complete the delegation process, affected facilities would encounter much more duplication of submittals to the EPA and MPCA, leading to uncertainty regarding who makes compliance decisions. The rules will apply to facilities whether or not the MPCA incorporates them into state rule. It is reasonable to adopt them in order to avoid duplicative reporting requirements and confusion regarding enforcement of rules. It is reasonable to make the above changes for ease of reading and to inform regulated parties about the delegated status of the program to the MPCA.

This subpart also calls out the portions of the federal standards that are not delegated to states. The EPA administrator retains authority to make all decisions identified in 40 CFR 60.4785(c). It is necessary to

include this reference in the rule so that the reader understands the limits of the MPCA's authority to regulate facilities under 40 CFR 60 Subp. LLLL.

In addition to clarifying the administrative status of this rule in Minnesota, the federal NSPS includes emission limits for mercury applicable to new sewage sludge incinerators. Sewage sludge incinerators are targeted under Minnesota's mercury TMDL Implementation Plan for air emission reductions. The control requirements of the federal rule will aid in minimizing mercury releases from this source type and the MPCA will be able to track compliance with this standard as part of the TMDL Implementation Plan. For these reasons, it is reasonable to adopt this rule.

Subp. 2. **Exceedance of emission limits.** As described in the statement of reasonableness of proposed part 7011.1340, Minn. Stat. § 116.85 establishes specific requirements for incinerators that exceed emission limits. This subpart reminds the reader that additional requirements are contained elsewhere in Minnesota rules.

PART 7011.1355 STANDARDS OF PERFORMANCE FOR EXISTING SEWAGE SLUDGE INCINERATORS; COMPLIANCE WITH CLEAN AIR ACT SECTION 129 STANDARDS.

This is a new proposed part to include recent federal standards adopted for existing sewage sludge incinerators (SSI) in 40 CFR Part 60 Subpart MMMM (60.5000 to 60.5250 and tables). Section 129 of the CAA directs the EPA to develop standards of performance for existing incinerators following the procedures of section 111(d). Under the CAA Sec. 111(d)(1)(A)(ii), the EPA may adopt standards for existing sources to which a standard of performance would have applied if such existing source were a new source.

Under Sec. 111(d)(1), standards of performance for existing facilities are titled "emission guidelines" and are implemented under procedures established by the EPA in 40 CFR part 60 subp. B. The emission guidelines are not directly enforceable at a facility; the state must make them enforceable by developing a plan for making the guidelines enforceable within the state. If the state does not undertake action to make the guidelines enforceable, Sec. 111(d)(2) then gives the EPA administrator the authority to enforce the elements through its own implementation plan for existing sources. A state's plan must be no less stringent than the emission guidelines (40 CFR 60.24(c)).

Because the federal standards contain a mercury emission limit, the MPCA seeks to act as the primary enforcement agency of these standards. The MPCA therefore must follow the procedures of 40 CFR part 60 subp. B, of which the first necessary action is to adopt standards of performance and compliance schedules into state rules. The rules must be equivalent to the federal emission guidelines. 40 CFR 60.24(a)

The emission guidelines for SSI have been written by the EPA using a "model rule" format to ease incorporating the guidelines into a state's plan. Prior to the EPA adopting the convention of writing emission guidelines as model rules, a state would have to rewrite the federal emission guidelines in their entirety for adoption into state rules. This increased the size and length of a state's plan, and the approval process between the EPA and states was slow due to the careful review that was necessary to ensure that all provisions of the federal guidelines were addressed by a state and determined to be equivalent. Writing emission guidelines in the form of model rules, and adopting them by reference, demonstrates "equivalence", and also allows for ease of modifications if necessary. Most of this

proposed rule part incorporates the model rule by reference to ease rulemaking, and points the reader to the federal guideline that contains the conditions of compliance. When relevant federal regulations are not contained in a model rule, the MPCA has proposed specific rule language.

In Minnesota, there are three operating SSI. The Metropolitan Council Environmental Services owns and operates sewage sludge incinerators at its Pigs Eye plant in St Paul and at its Seneca plant in Eagan. The City of Buffalo also owns a sewage sludge incinerator.

Subp. 1. **Applicability.** This new subpart incorporates the federal emission guideline identifying which sources are subject to these standards. Some sources have been exempted in the federal emission guidelines, and items A, B and C describe which sources are exempt by incorporating those federal exemptions. It is reasonable to include this subpart with the exemptions listed so that a potential source can determine if it is necessary to further read the federal emission guidelines.

Item A exempts SSIs from the federal standard if the SSI is not located at a wastewater treatment facility. The exemption is provided by federal rule 40 CFR 60.5065 thus making this provision equivalent to the emission guideline.

Items B and C are necessary to describe when modifications at a SSI are extensive enough that the incinerator must be considered "new" rather than continue being considered an "existing" unit. Item B incorporates the provisions of federal rule 40 CFR 60.5060(b) explaining that if a modification is made, the source is subject to the standards of performance for new SSIs. Item C incorporates the provisions of federal rule 40 CFR 60.5060(c) explaining that investments to comply with existing SSI rules do not make the source a new SSI. These two provisions are needed in state rule because there is not a model rule to reference, and the provisions are needed to make the state rules "equivalent" to the federal rules.

Subp. 2. **Incorporation of federal performance standards for existing sewage sludge incinerators.** This subpart contains the portions of the model federal rule necessary to adequately regulate SSIs in Minnesota so that state rules can be demonstrated to be as stringent as the federal emission standards. Item A contains the list of incorporated federal rules, item B provides a definition for the use of terms in federal rules to ensure consistent interpretation of responsibilities described in the federal rules.

Subitem (1) establishes the schedule under which the affected facilities must comply with the federal SSI standards. Federal regulation 40 CFR 60.24(a) requires that a state plan contain a compliance schedule; if the schedule in a state's plan allows affected facilities to comply with the standards more than 12 months from the date a state submits its plan, federal regulation 40 CFR 60.24 (e)(1) requires that the plan contain legally enforceable increments of progress to achieve compliance for each facility. The EPA provided increments of progress in the SSI emission guidelines; the MPCA is proposing to adopt the same increments of progress in subitem (1), thus ensuring that the state plan is as stringent as the federal emission guidelines for SSIs. The federal model rule requires the state to establish the deadlines for each increment of progress, thus units (a) and (b) of this subitem require a final control plan one year after this rule is adopted and that final compliance with the emission guidelines must be demonstrated by three years after the effective date of this rulemaking.

Since a deadline has to be set for the submittal of a control plan, the MPCA has decided that affected facilities should have one additional year after the rule is adopted to show how they will comply with the federal rules. By the time this rule is adopted, an affected facility will have had four years to determine its control strategy for compliance, a very generous amount of time to plan.

Unit (b) sets a final deadline for complying with the emission limits and monitoring requirements of the federal emission guidelines for SSI. The MPCA has chosen to establish the compliance deadline of three years after the promulgation of this rule. This results in compliance being demonstrated about five years after the promulgation date of the federal emission limits for SSIs. Some amount of time is needed to plan, install and initiate operation of controls for air pollution control equipment. Since current emissions testing at the Minnesota SSIs demonstrates compliance with all emission limits, the MPCA believes that this five year compliance period is sufficient to complete the installation of required monitors and establish appropriate recordkeeping and reporting processes to comply with the federal emission guidelines.

Subitems (2) through (8) are proposed in order to ensure that Minnesota's state rules governing SSIs are "equivalent to" the federal emission guidelines. If the MPCA did not reference the model rule for these requirements, separate unique rule language addressing each of these requirements would have to be developed. The MPCA is proposing to adopt model rule language contained in the specific federal regulation in order to ensure that state rules are as stringent as federal rules.

Item B is necessary to define the terms "administrator" and "you". The model rule uses these two terms to distinguish which party is responsible for various requirements within the federal rule. Upon delegation of the federal standard, the MPCA will have the authorities that are described as "administrator" therefore it is reasonable to clarify to the reader the MPCA's role in enforcing the SSI emission standards.

Subp. 3. **Exceedance of emission limits.** As described in the statement of reasonableness of proposed part 7011.1340, Minn. Stat. § 116.85 establishes specific requirements for incinerators that exceed emission limits. This subpart reminds the reader that additional requirements are contained elsewhere in Minnesota rules.

COMMERCIAL AND INDUSTRIAL SOLID WASTE INCINERATORS

Parts 7011.1360, 7011.1365 and 7011.1370 are proposed to regulate air emissions, including mercury, through the incorporation of recently promulgated federal standards of performance for commercial and industrial solid waste incinerators.

The proposed parts include incorporation of federal standards adopted for existing and new commercial and industrial solid waste incinerators. Section 129 of the CAA directs EPA to develop standards of performance for existing incinerators following the procedures of section 111(d). EPA completed rulemaking for existing waste combustors with the promulgation of the CISWI emission guidelines on February 7, 2013 (see 78 Fed. Reg. 9112 (2013)).

Under the CAA Sec. 111(d)(1)(A)(ii), EPA may adopt standards for existing sources to which a standard of performance would have applied if such existing source were a new source. Under Sec. 111(d)(1), standards of performance for existing facilities have been titled "emission guidelines." Emission guidelines are implemented under procedures established by EPA that are similar to the procedures for a state preparing a "state implementation plan" under Section 110 of the CAA. The procedures a state is to follow for implementing standards applicable to existing sources are contained in 40 CFR part 60 subp. B. The emission guidelines thus are not directly enforceable at a facility; the state must make them enforceable by developing a plan for making the guidelines enforceable within the state. If the state

does not undertake action to make the guidelines enforceable, Sec. 111(d)(2) then gives the EPA administrator the authority to enforce the elements through its own implementation plan for existing sources ("federal plan" or FP).

Because the MPCA seeks to act as the primary enforcement agency of these standards, the MPCA is following the procedures of 40 CFR part 60 subp. B. The first necessary action of the MPCA's plan is to adopt standards of performance and compliance schedules in state rules that are equivalent to the federal emission guidelines as required by 40 CFR 60.24(a).

The emission guidelines for CISWI have been written by the EPA in "model rule" format to ease incorporating the guidelines into a state's plan (Federal regulation 40 CFR 60.2560). Prior to EPA adopting the convention of writing emission guidelines as model rules, a state would have to redraft the federal emission guidelines in their entirety so as to apply to an affected facility, and then adopt those rewritten rules. This increased the size and length of a state's plan, and the approval process between the EPA and states was slow due to the careful review that was necessary to ensure that all provisions of the federal guidelines were addressed by a state, so that the EPA could make the determination that the state's rules are equivalent. With EPA writing emission guidelines in the form of model rules, and states adopting the model rule by reference, "equivalence" is more directly demonstrated, and also allows ease of modification if the federal rule is modified in the future. Most of this proposed rule part incorporates the model rule by reference to ease rulemaking and points the reader to the federal guideline that contains the condition of compliance. When relevant issues are not contained in a model rule, the MPCA has proposed specific rule language.

In Minnesota, there are two facilities that, if current conditions continue at the compliance deadline, will be classified as a CISWI. Fibrominn in Benson combusts poultry litter along with clean wood and Endres Processing in Rosemount combusts packaging waste along with sawdust.

PART 7011.1360 EXISTING COMMERCIAL AND INDUSTRIAL SOLID WASTE INCINERATORS COMPLIANCE REQUIREMENTS.

Subpart 1. **Applicability.** This new subpart incorporates federal emission guidelines identifying which existing facilities are defined as CISWI, and are to be regulated under the federal emission guidelines. The federal emission guidelines exempts certain combustion sources from the CISWI guidelines, and items A through H adopts the exemptions by incorporating those exemptions described in federal regulation 40 CFR 60.2555. It is reasonable to include this subpart with the exemptions listed so that Minnesota's rule addresses the same facilities as the federal rule. In this way, the MPCA will be able to demonstrate that the state rule is as stringent as the federal rule, which will aid the EPA in approving the state's plan to regulate CISWI sources.

Subp. 2. **Compliance deadline.** In order to request implementation and enforcement delegation of the emission guidelines for existing facilities, a compliance schedule must be included in Minnesota's 111(d) plan. 40 CFR 60.2515. The emission guidelines allow states to establish compliance timeframes no later than three years after the effective date of the approval of a state plan or five years after the adoption of the emission guidelines.

The rule proposes that an affected facility demonstrate compliance with the CISWI standards by March 16, 2016. EPA first adopted the CISWI standards on March 21, 2011, thus this compliance deadline

provides affected facilities the maximum time allowed for compliance, that is, five years from when the federal emission guidelines were first adopted by EPA. 40 CFR 60.2705. EPA revised the rules February 2013, and extended the compliance deadline to 2018. The 2016 compliance deadline remains a reasonable compliance deadline because the revisions to the federal rules relaxed emission limitations for affected Minnesota facilities, facilities should have started a compliance project in 2011, and facilities have demonstrated compliance with most of the emission limits already. The facilities will have an additional two years after this rule is adopted to comply with the standards.

Subp. 3. **Modifications**. In order to comply with the emission guidelines, a facility may find it necessary to make changes. This subpart and subpart 4 are necessary to describe when changes at a CISWI are extensive enough that the incinerator must be considered "new" rather than continue being considered an "existing" unit. Subp. 3 incorporates the provisions of federal rule 40 CFR 60.2550(b) explaining that if a modification is made, the source is subject to the standards of performance for new CISWIs. This proposed rule incorporates the provisions of federal rule 60.5060(c) explaining that investments to comply with existing CISWI rules do not make the source a new CISWI. These two provisions are needed in state rule because there is not a model rule to reference, and the provisions are needed to make the state rules at least as protective as the federal rules.

Subp. 4. **Physical or operational changes.** Owners or operators of some CISWI units may find it necessary to make physical or operational changes to the unit to comply with the federal emission guidelines. This proposed part adopts the federal emission guideline in 40 CFR 60.2550(c) that exempts these types of changes at a facility from making the unit "new". It is reasonable to adopt the federal rules so that the state rule is as protective as the federal regulation.

Subp. 5. **Exceedance of Emission limits.** As described in the statement of reasonableness of proposed part 7011.1340, Minn. Stat. § 116.85 establishes specific requirements for incinerators that exceed emission limits. This subpart reminds the reader that additional requirements are contained elsewhere in Minnesota rules.

PART 7011.1365 INCORPORATION OF STANDARDS OF PERFORMANCE FOR EXISTING COMMERCIAL AND INDUSTRIAL SOLID WASTE INCINERATORS BY REFERENCE.

This part contains the portions of the model federal rule necessary to adequately regulate CISWIs in Minnesota so that state rules can be demonstrated to be as stringent as the federal emission standards. Item A contains the list of incorporated federal rules, item B provides a definition for the use of terms in federal rules to ensure consistent interpretation of responsibilities described in the federal rules.

Subitem (1) establishes the schedule under which the affected facilities must comply with the federal CISWI standards. Federal regulation 40 CFR 60.24(a) requires that a state plan contain a compliance schedule; if the schedule in a state's plan allows affected facilities to comply with the standards exceeds more than 12 months from the date a state submits its plan, federal regulation 40 CFR 60.24 (e)(1) requires that the plan contain legally enforceable increments of progress to achieve compliance for each facility. EPA provided increments of progress in the CISWI emission guidelines; the MPCA is proposing to adopt the same increments of progress in subitem (1), thus ensuring that the state plan is as stringent as the federal emission guidelines for CISWIs. The federal model rule requires the state to establish the deadlines for each increment of progress, thus units (a) and (b) of this subitem require a final control

plan one year after this rule is adopted and that final compliance with the emission guidelines must be demonstrated three years after the effective date of the rule.

Since a deadline has to be set for the submittal of a control plan, the MPCA has decided that affected facilities should have one additional year after the rule is adopted to show how it will comply with the federal rules. By the time this rule is adopted, an affected facility will have had four years to determine its control strategy for compliance, a very generous amount of time to plan.

Unit (b) sets a final deadline for complying with the emission limits and monitoring requirements of the federal emission guidelines for CISWI. The MPCA has chosen to establish the compliance deadline of three years after the promulgation date of the federal emission limits for CISWIs. Some amount of time is needed to plan, install and initiate operation of controls for air pollution control equipment. Since current emissions testing at the Minnesota CISWIs demonstrates compliance with all emission limits, the MPCA believes that this three year compliance period is sufficient to complete the installation of required monitors and establish appropriate recordkeeping and reporting processes to comply with the federal emission guidelines.

Subitems (2) through (12) are proposed in order to ensure that Minnesota's state rules governing CISWIs are at least as stringent as the federal emission guidelines. If the MPCA did not reference the model rule for these requirements, separate unique rule language addressing each of these requirements would have to be developed. The MPCA is proposing to adopt model rule language contained in the specific federal regulation in order to ensure that state rules are as stringent as federal rules.

Item B is necessary to define the terms "administrator" and "you". The model rule uses these two terms to distinguish which party is responsible for various requirements within the federal rule. Upon delegation of the federal standard, the MPCA will have the authorities that are described as "administrator" therefore it is reasonable to clarify to the reader the MPCA's role in enforcing the CISWI emission standards.

PART 7011.1370 INCORPORATION OF NEW SOURCE PERFORMANCE STANDARD FOR NEW COMMERICAL AND INDUSTRIAL SOLID WASTE INCINERATORS BY REFERENCE.

Subpart 1. **Incorporation by Reference.** This subpart incorporates a federal NSPS for new CISWI incinerators. The current delegation agreement between the EPA and the State of Minnesota requires that for a NSPS standard to be delegated to the state for implementation and enforcement, the standard must first have the force of law in Minnesota. The MPCA adopts this NSPS by reference to comply with this condition of the delegation agreement.

This rule is needed in order to fulfill the MPCA's delegation commitment and to avoid confusion regarding whether the EPA or MPCA will be responsible for the implementation and enforcement of the standard. Once MPCA has established primacy in enforcement of a standard, facilities that are subject to the standard need only communicate and report to the MPCA when operating under the standard. If the MPCA did not complete the delegation process, affected facilities would encounter much more duplication of submittals to the EPA and MPCA, leading to uncertainty regarding who makes compliance decisions. The rules will apply to facilities whether or not the MPCA incorporates them into state rule. It is reasonable to adopt them in order to avoid duplicative reporting requirements and confusion

regarding enforcement of rules. It is reasonable to make the above changes for ease of reading and to inform regulated parties about the delegated status of the program to the MPCA.

This part incorporates federal NSPS standards for CISWI into state regulation and clarifies that certain decisions are not delegated to Minnesota.

This subpart also calls out the portions of the federal standards that are not delegated to states. The EPA administrator retains authority to make all decisions identified in 40 CFR 60.2030(c). It is necessary to include this reference in the rule so that the reader understands the limits of the MPCA's authority to regulate facilities under 40 CFR 60 Subp. CCCC applies.

In addition to clarifying the administration status of this rule in Minnesota, the federal NSPS includes emission limits for mercury applicable to new CISWI. The CISWI are targeted under Minnesota's mercury TMDL Implementation Plan for air emission reductions. The control requirements of the federal rule will aid in minimizing mercury releases from this source type and the MPCA will be able to track compliance with this standard as part of the TMDL Implementation Plan. For these reasons, it is reasonable to adopt this rule.

Subp. 2. **Exceedance of emission limits.** As described in the statement of reasonableness of proposed part 7011.1340, Minn. Stat. § 116.85 establishes specific requirements for incinerators that exceed emission limits. This subpart reminds the reader that additional requirements are contained elsewhere in Minnesota rules.

INDUSTRIAL, COMMERCIAL, AND INSTITUTIONAL BOILERS AND PROCESS HEATERS

PART 7011.7050 INDUSTRIAL, COMMERCIAL, AND INSTITUTIONAL BOILERS AND PROCESS HEATERS; MAJOR SOURCES.

The EPA delegated the NESHAPs program to the MPCA in a *Federal Register* notice dated July 23, 2002 (67 Fed. Reg. 48036 (2002)). The notice spelled out the procedure for delegation of federal standards such as this one. The process includes a commitment by MPCA to incorporate the standards by reference into state rules. Additionally, the EPA and MPCA executed a MOA to establish procedures to facilitate federal delegation of authority to implement and enforce standards. The implementation of NESHAPs was automatically delegated to the MPCA under the MOA. Delegation of enforcement requires that the NESHAP be incorporated into state law. Rulemaking completes the delegation process by giving MPCA implementation and enforcement authority for this standard.

This subpart also calls out the portions of the federal standards that are not delegated to states. The EPA administrator retains authority to make all decisions identified in 40 CFR 63.313(d). It is necessary to include this reference in the rule so that the reader understands the limits of the MPCA's authority to regulate facilities under 40 CFR 63 Subp. DDDDD.

This rule is needed in order to fulfill the MPCA's delegation commitment and to avoid confusion regarding whether the EPA or MPCA will be responsible for the implementation and enforcement of the standard. Once MPCA has established primacy in enforcement of a standard, facilities that are subject to the standard need only communicate and report to the MPCA when operating under the standard. If the MPCA did not complete the delegation process, affected facilities would encounter much more duplication of submittals to the EPA and MPCA, leading to uncertainty regarding who makes compliance

decisions. The rules will apply to facilities whether or not the MPCA incorporates them into state rule. It is reasonable to incorporate these standards by reference in order to avoid duplicative reporting requirements and confusion regarding enforcement of rules.

PART 7011.7055 INDUSTRIAL, COMMERCIAL, AND INSTITUTIONAL BOILERS; AREA SOURCES.

The EPA delegated the NESHAPs program to the MPCA in a *Federal Register* notice dated July 23, 2002 (67 Fed. Reg. 48036 (2002)). The notice spelled out the procedure for delegation of as yet to be delegated standards, as this one. The process includes a commitment by MPCA to incorporate the standards by reference into state rules. Additionally, the EPA and MPCA executed a MOA to establish procedures to facilitate federal delegation of authority to implement and enforce standards.[6]
The area source standard is being incorporated into this rulemaking at this time because it has conditions related to controlling mercury emissions for area sources burning coal.

The implementation of NESHAPs is automatically delegated to the MPCA upon promulgation of the final NESHAP standard. Delegation of enforcement requires that the NESHAP be incorporated into state law. This rule, once promulgated, will give the area source standard the force of state law, allowing the MPCA to complete the delegation for enforcement authority for this standard.

Although the MPCA's NESHAP delegation covers only those sources considered to be "major sources" under Part 70 rules, the MPCA has a practice of incorporating by reference all of the NESHAP standards, including standards for "area sources" which are not automatically subject to Part 70, into state rule. Incorporating the federal rule into state rules is reasonable as it will eliminate future rulemaking resources if the MPCA requests delegation of the area source standards in the future or if the EPA changes the exemption from Part 70 status of any of the area source categories.

Because the EPA retains some authorities and will not delegate them to the MPCA, the proposed part 7011.7055 also lists that part of the NESHAP that will not be delegated, should the MPCA seek to accept delegation of this area source standard. The EPA administrator retains authority to make all decisions identified in 40 CFR 63 11236(c). It is necessary to include this reference in the rule so that the reader understands the limits of the MPCA's authority to regulate facilities under 40 CFR 63 Subp. JJJJJJ.

4) CHAPTER 7019 EMISSION INVENTORY REQUIREMENTS

PART 7019.3000 EMISSION INVENTORY.

Part 7019.3000 explains the framework under which owners or operators of emission reporting facilities will report actual air emissions to the MPCA. It defines what facilities are subject to reporting, how to calculate emissions, and when reports are due. Certain pollutants are subject to fees; however, reporting includes other pollutants that are not associated with fees.

Subp. 3. **Mercury emission sources.** A new subpart 3 establishes the requirement that owners or operators of a "mercury emission source" as defined in the proposed rules report its mercury emissions annually. Currently, the MPCA prepares an air toxics inventory every three years. This subpart would

[6] Attachment 4 to this SONAR

require annual reporting of mercury air emissions if a source meets the threshold proposed in this rulemaking. This is necessary to allow the MPCA to regularly assess progress toward the reduction goal in the TMDL and proposed mercury emissions reduction plans under part 7007.0502. It is reasonable to establish this requirement as the inventory requirement for mercury is similar to that of other air pollutants which are already regulated under various state and federal rules.

For many facilities, the emissions of mercury result from fuel combustion. As facilities already report fuel use to the MPCA for the calculation of emissions of other air pollutants, this proposal will not increase their burden for reporting. However, some facilities have mercury emissions that result from product manufacture or processing. The proposed rule will increase the effort in reporting required in the two years in which facilities are not currently reporting mercury under the current air toxics initiative.

Subp. 4. **Possible mercury emission sources.** A new subpart 4 gives the MPCA the ability to request quantification of mercury emissions if there is evidence that indicates actual mercury air emissions may exceed the threshold to be considered a mercury emission source. It is reasonable to have the ability to determine whether a source should be included as part of the effort to meet the reduction target. It holds facilities to the same standard as others with similar levels of emissions. The MPCA believes that 120 days to submit a report is reasonable because it is the same amount of time as federal requirements for a similar scenario, in that case: sources that become subject to a NESHAP (see 40 CFR 63.9(b)(2)).

PART 7019.3020 CALCULATIONS OF ACTUAL EMISSIONS FOR EMISSION INVENTORY.

This part establishes how to calculate actual emissions for emission inventory purposes.

Item F addresses the use of a material balance for emissions calculations. The term "mercury" as defined in these proposed rules is added to this item to be eligible to use this type of calculation. It is reasonable to allow this type of calculation for mercury in a manner similar to how other pollutants are treated.

PART 7019.3050 PERFORMANCE TEST DATA.

This part establishes requirements relevant to performance test data.

Item A is revised to include mercury emission sources in the types of facilities that could use the performance test methods in part 7019.3050. It is reasonable to allow mercury emission sources to use the same methodologies as other reporting entities.

Item D addresses emission factors developed from test results. If the most recently conducted performance test data is more than ten years older than the last date of the emission inventory period, then the emission factor derived from the performance test shall be used if it results in higher calculated emissions than any default emission factor. Item D is revised to add the requirement that mercury emission sources follow the testing schedule specified in item E of this part. This is reasonable to ensure accurate tracking of emissions reductions, which are on the order of pounds per year rather than tons per year.

Item E is a new requirement that mercury emission sources follow a specified testing schedule. Owners or operators of a mercury emission source would follow the requirements of this item only when no other applicable requirements or enforceable documents define their compliance demonstration methods and schedules.

Subitem (1) requires that owners or operators of existing mercury emission sources – that is, sources in operation before the effective date of the rule and with emissions that meet the threshold – conduct a baseline test for mercury air emissions within one year of the effective date of the rule. The test must comply with the MPCA's standard testing requirements as defined in chapter 7017. An initial or baseline test is reasonable to establish an accurate starting point to assess reductions toward the 2025 target level. Allowing up to one year for the test to be completed is reasonable considering the need to schedule it with a testing contractor, and the fact that some mercury testing protocols include tests over a 30-day period.

Subitem (2) specifies that only units whose individual emissions are three or more pounds of mercury per year are required to test. It is reasonable for the MPCA to focus the effort and expense of testing only on units with three or more pounds of mercury emissions as described under part 7005.0100, subpart 23b.

Under subitem (3), facilities that become mercury emissions sources as defined in these rules must test within 180 days of being subject to these rules. This is similar to the baseline test of existing units in subitem (1). It is reasonable for units with comparable levels of emissions to be assessed or tested similarly. Because the intention of the statewide TMDL reduction target is to reduce mercury emissions, it is reasonable to hold such increases to a higher level of scrutiny.

Under subitem (4), units that are substantially equivalent need not be tested separately. The owners or operators must provide an explanation to the MPCA which provides sufficient detail to justify how the units are equivalent. For example, two process boilers with the same combustion technology, allowable fuels and controls made by different manufacturers could be "substantially equivalent." It is reasonable to spare owners and operators the expense of testing multiple units if there is no real difference between them.

Subitem (5) requires that subsequent testing must follow within 60 months of each prior test. It is reasonable to require periodic testing because mercury is a toxic pollutant that warrants a higher level of scrutiny, and to ensure accurate tracking of emissions.

Unit (a) provides that sources that are no longer mercury emission sources, as defined in proposed part 7007.0502, subpart 2, are not required to conduct the subsequent performance tests described above.

Unit (b) requires that if mercury emissions increase and a source once again exceeds the threshold as a mercury emission source, then owners or operators must resume subsequent testing under Minn. R. 7019.3050, Item E. It is reasonable to focus testing efforts on more substantial sources of mercury for the same reasons described under subitem (2) above.

PART 7019.3065 MERCURY MATERIAL BALANCE.

This part establishes under what conditions an owner or operator may use a materials balance method to calculate mercury emissions. This part provides an additional calculation method for mercury. If owners or operators do not have either a CEM to monitor its mercury emissions or a physical location at which to conduct a mercury emissions performance test, the owners or operators of a mercury emissions source may calculate mercury emissions using the material balance method described in this part, if inputs and outputs of mercury are known. The proposed additional calculation method is reasonable because it provides an option for owners or operators that cannot use CEMs or performance testing to determine compliance and the calculation method is similar to those already in place for units with emissions of volatile organic compounds.

X. REGULATORY ANALYSIS

Minnesota Statutes § 14.131 sets out eight factors for the regulatory analysis that must be included in a SONAR. Paragraphs (1) through (8) below quote these factors and then provide MPCA's response. Paragraph (9) addresses additional requirements listed in Minn. Stat. § 14.131.

> *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."*

Who is affected?

The MPCA proposes to set an emissions threshold for mercury to define sources that are subject to this proposed rule. Sources with very low air emissions of mercury would not be included. The proposed rules define mercury emission source as a stationary source with actual mercury emissions of three lb/yr or more. The rationale behind this threshold is in Section X.

The MPCA has identified stationary sources within the industries listed below as being likely to exceed the proposed three lb/yr threshold, for which a strategy for mercury emissions reduction under the Minnesota Statewide Mercury TMDL Implementation Plan has been developed.

- Coal-fired electric generating boilers
- ICI boilers using coal
- Iron and steel melters that recycle cars and appliances, typically, to recover and make steel
- Ferrous processing/mining (taconite production facilities and direct reduced iron furnaces)

These sources are subject to the rule requiring each facility develop and implement a mercury reduction plan.

Additional proposed rules will incorporate federal performance standards into state rules:

- New hospital/medical/infectious waste incinerators
- New small MWCs
- Sewage sludge and solid waste incinerators

The federal rules for new units of these types are being incorporated by reference to allow the MPCA to continue administrating its regulatory program for these emission source types.

All sources emitting actual mercury emissions three lb/yr or greater will report their mercury emissions annually. The annual inventory from these sources will be a part of the MPCA's statewide inventory to track the achievement of the TMDL statewide mercury air emissions goal of 789 pounds.

Who bears the cost of complying with these rules?
Owners and operators of the emission sources will undertake some actions to address their responsibilities under this rule. At a minimum each stationary source owner that determines that the source is emitting greater than three lb/yr of mercury each will be required to submit a report to the MPCA air emissions inventory. At a maximum, owners and operators of some mercury emission sources will have to implement mercury reduction plans that could include the installation of physical controls.

Depending on the ease of eliminating mercury from the processes releasing it, the efforts to implement the required mercury reduction plan could be minimal—replacing low-quality emission estimates with actual mercury measurements might indicate no further reductions are needed—ranging to some amount of work to reduce mercury. The ferrous mining industrial sector will likely undertake the largest projects, installing and operating mercury controls at furnaces that currently have no active mercury control systems. Emission sources like sewage sludge incinerators and very large EGUs already have mercury control equipment in place and few changes are needed to comply with proposed rule requirements. Some sources are subject to recent federal standards of performance that require mercury emissions control and thus are making changes regardless of this proposed rule.

Affected owners and operators are private, public, or, in the instance of electricity generation companies, regulated utilities. Owners or operators will cut expenses elsewhere, take less profit or raise prices (or taxes) to address the costs of compliance with this rule.

Mercury is not one of the air pollutants for which the MPCA collects fees. Therefore, adding mercury to the annual emission inventory will not result in a fee increase for affected source categories.

The owners and operators of certain waste combustors, hospital/medical and infectious waste incinerators, solid waste incinerators, sewage sludge incinerators and commercial or industrial solid waste incinerators have to comply with the federal rules, regardless of whether the MPCA incorporates them into state rule. As a result, the cost of compliance is no different than it would be if the MPCA did not incorporate the standards into state rule. Incorporation does result in less confusion, however, regarding the state's enforcement authority.

Who benefits?
Mercury Reduction Rules: The mercury reduction parts of the proposed rules reduce mercury contamination in fish populations. The rule reduces the risk from eating mercury-contaminated fish to women of childbearing age and children. Recreational anglers and their families and subsistence fish consumers are also highly exposed populations. Wildlife—the fish themselves and those animals that rely on fish as a food source—are also affected by mercury contamination. Minnesotans and visitors to the state will ingest less mercury when eating fish caught in local surface waters. The reduction or elimination of fish consumption advisories due to mercury content in fish tissue may also benefit the recreational industry by removing a health concern related to fishing.

2. "The probable costs to the MPCA and to any other agency of the implementation and enforcement of the proposed rule and any anticipated effect on state revenues."

The proposed rule changes are not expected to significantly affect MPCA staffing needs or workloads. There will be nominal impact on overall Agency costs or state revenues as a result of any of these proposed amendments. There is a possibility that Agency workloads may increase, with the submittal of mercury emissions reduction plans. However, any added work and costs will be absorbed into the normal staff complement and current budgets.

Mercury reduction plans will eventually be incorporated into existing air emission permits. While the review of mercury emission reduction plans that are required by the rule is new work for the Agency, because the affected sources already have air emission permits that are fairly complicated, requiring significant MPCA resources to these industrial sectors, the review and resulting permit amendments are not likely to increase the MPCA's needs for resources.

The MPCA staff will need to review stack testing, record keeping, and reporting, but will simply include it in the ongoing work and use review, reporting and tracking systems already in place at the Agency. Most mercury emission sources already have individual air permits or registration permits. Existing staff will continue to modify permits, incorporate state and federal control requirements into the permits, and determine compliance for those sources.

Currently, sources of air toxic pollutants such as mercury submit a report of air emissions every three years to the MPCA. For most sources, this report is voluntary, but for EGUs, the report is required by Minn. Stat. §116.925. The rule proposes to add mercury to the list of pollutants for which an annual emission report is required, changing the voluntary triennial report to an annual report. The MPCA staff will process this information in a manner similar to other reportable pollutants currently required annually. The implementation of electronic data submittals and processing by the MPCA has the potential to reduce the effort and cost related of an annual inventory for mercury air emissions.

The waste incineration rules are not expected to significantly affect MPCA staffing needs or workloads. There may be an increase on compliance and enforcement costs when the facilities must demonstrate compliance with the standards, but generally the MPCA expects that the facilities will not have difficulty meeting the new standards.

3. "A determination of whether there are less costly methods or less intrusive methods for achieving the purpose of the proposed rule."

The MPCA has already engaged in a number of voluntary efforts and initiatives to reduce the use of mercury in products and of emissions of mercury to the air. State law also regulates mercury from utilities and sets a mercury release goal and bans mercury from certain products and elementary and secondary schools. Many of these efforts are listed in Item 4 below. However, to meet the TMDL reduction goal of 789 lb/yr of mercury air emissions within the state, specific source categories need to make reductions beyond what previous laws and voluntary efforts have achieved to date.

While progress in mercury reductions occurred, it is not sufficient to meet the reduction goal of the TMDL. New and upcoming regulations from the EPA will address additional mercury control for some source categories. The TMDL Implementation Plan proposed the use of plans developed by an emission facility owner. To make the plans and reduction strategies consistent and enforceable, the MPCA staff believe a rule is the most efficient and effective approach at this time.

The alternative of not conducting this rulemaking was also considered. As described further in Items 7 and 8, below, the EPA has already or is in the process of regulating some of the affected sectors. Minnesota statutes address mercury from electric utility boilers. The regulations are patchwork in that they do not address all the important sources of mercury air emissions in Minnesota. While the regulations would result in some reductions in mercury air emissions, it is unlikely they will achieve the TMDL statewide goal of 789 lb/yr. Reductions are needed from many sectors which are not included in the EPA rules and state statutes.

There is no reasonable alternative to the incorporation of federal standards into state law for Minnesota to keep EPA approval to operate its air programs.

> *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."*

The following list identifies efforts by the legislature, the MPCA, and partner organizations to reduce mercury emissions in Minnesota. The first of these voluntary activities started more than 20 years ago. As noted in their description, many of the programs have been voluntary. The programs have accomplished much to address potential mercury pollution, in particular as it relates to legacy mercury in consumer products, industrial equipment, and in research and educational laboratories; and many of the programs remain in place to continue to minimize threats to human health or the environment from mishandled waste products with mercury.

However, none of the state programs yet control mercury air emissions from stationary sources. Any further substantial progress in achieving the statewide TMDL goal will need to come from addressing releases from industrial facilities.

Statewide Initiatives:

- Voluntary Mercury Reduction Agreements – Minn. Stat. § 116.915 was adopted in 1999, intended to help reduce mercury contamination in Minnesota fish. The statute:
  (1) sets state mercury release goals
  (2) lists MPCA contamination-reduction strategies
  (3) requires the MPCA to solicit voluntary reduction agreements from air emission sources
  (4) requires reports

  The MPCA received voluntary agreements from most industries emitting significant amounts of mercury to the air. The agreements typically focused on elimination of mercury in products, or where significant facility expansions were contemplated, a commitment to evaluate mercury emission controls. These agreements appear to have been effective in eliminating use of mercury where suitable alternatives were available (e.g. measuring devices); however, as a review of air emission inventories across the years has shown, has done little to address direct releases of mercury to the air when burning coal, processing irons, or melting scrap metals.

- Minn. Stat. § 116.92 places restrictions on the sale and use of mercury and bans mercury in certain products. The statute was initially adopted in 1992, and has been amended a number of times, the last time in 2007.

- Minn. Stat. § 116.925 requires producers and retailers of electricity, including sources located outside the state, to report the amount of mercury emitted through the generation of electricity. This statute was adopted in 1997.
- The Mercury Free Zones Program provided assistance to schools to remove mercury, including the use of a mercury-detecting dog. This program was eliminated when Minn. Stat. § 121A.33 banned elemental mercury and certain mercury-containing equipment in schools in 2007.
- Ongoing household hazardous waste collection, fluorescent lamp recycling and thermostat/relay recycling programs keep mercury-containing materials out of the waste stream. Household hazardous waste programs have been in place in Minnesota since 1989.

National Efforts:

- The MPCA has worked with other Great Lakes states and the EPA Region V, as well as Canadian counterparts on reducing mercury in the region. The MPCA worked with other states in the region to develop a regional mercury-added products phase-out plan facilitated by the Great Lakes Regional Collaboration and EPA Region V. The MPCA has carried out most of the recommendations in the Mercury in Products Phase-Down Strategy dated June 19, 2008. With these same partners, the MPCA is participating in a regional mercury-air-emission reduction strategy, the Great Lake Mercury Emission Reductions Strategy, dated December 7, 2010.
- MPCA staff participated in state environmental and media association groups seeking to reduce mercury releases. Examples of MPCA's involvement with these organizations include:
  - National Association of Clean Air Agencies (NACAA): The MPCA participates on the NACAA air toxics committee and provides input to and comments on proposals for standards development. This committee has been very active in national strategy and policy development to reduce mercury emissions. (Attachment 6)
  - Quicksilver Caucus: The Quicksilver Caucus is a coalition of state environmental agencies and state agency associations concerned about mercury. The Quicksilver Caucus is convened by the association of state environmental 21 department heads, the Environmental Council of States (ECOS). The MPCA staff actively participates in Quicksilver Caucus activities. These activities include conducting mercury workshops for state agency staff and administrators, policy development with the EPA and other organizations, and program implementation.
  - ECOS: In a special effort to minimize releases related to mercury switches in vehicles, MPCA staff represents the states in the National Vehicle Mercury Switch Recovery Program—a joint initiative with vehicle manufacturers, salvage yards and scrap processors, steelmaking facilities, and environmental organizations.
  - Interstate Mercury Education and Reduction Clearinghouse (IMERC): The MPCA, along with the environmental agencies of 13 other states, is a member of IMERC, a center that collects and manages data on mercury product sales in the United States.

International Efforts:

According to the MPCA's estimates, about 40 percent of human-caused deposition of mercury to Minnesota originates from sources outside of the United States. Examples of current and future involvement by the MPCA include:

- Lake Superior Binational Program: Since 1991, as called for in the Canada-United States Great Lakes Water Quality Agreement, the Lake Superior Lakewide Management Plan (LaMP) has sought to reduce mercury emissions from the Lake Superior region. Along with Michigan, Wisconsin, Ontario, tribal groups, and the U.S. and Canadian federal governments, the MPCA

actively participates in this program. Mercury releases in the Lake Superior basin have reduced by 71 percent since 1990.

- Great Lakes Binational Toxics Strategy (GLBTS): GLBTS is a result of the "Canada-United States Strategy for the Virtual Elimination of Persistent Toxic Substances in the Great Lakes Basin," signed April 7, 1997. The strategy includes a Mercury Reduction Challenge for each country. Public, private and nongovernment partners work together on a voluntary basis to achieve the reductions.
- North American Regional Action Plan for Mercury: The governments of the United States, Canada and Mexico jointly developed a comprehensive regional action plan for reducing mercury in North America. The MPCA staff has been involved in implementing this strategy since its development in 1999 and as a member of the North American Mercury Task Force since 2004.
- Quicksilver Caucus International Mercury Work Group: This group has provided input to the United States State Department and the EPA in advance of international negotiations addressing mercury globally.

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 government units, businesses, or individuals."

This rulemaking requires several different types of actions, depending on the type of source and the size of the source. Because this rule likely requires some expenditures of resources, either in terms of additional effort by the owner or operator of an emission source to report an annual emissions inventory, to prepare and implement a mercury emissions reduction plan, and for some sources, install air pollution control equipment, the discussion of costs is more fully developed in Section XII, Consideration of Economic Factors.

The only alternative method for achieving the purpose of the incorporation of the waste incineration portions of the proposed rule is to let the standards remain federal standards. This would not change the impact on the regulated facilities except to require them to report directly to EPA rather than to the MPCA. Failure to incorporate the standards would, however, jeopardize federal approval of Minnesota's air programs, which could have a significant negative impact on the regulated facilities. If Minnesota were to ultimately lose federal approval of its air programs and authority for implementation of those programs were to revert to EPA, the result would be less direct connection with regulators and likely slower responses to compliance and enforcement and permitting.

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."

Should the MPCA not adopt this rule some sectors would not be required to reduce mercury air emissions as determined was needed in the TMDL Implementation Plan. This reduces the likelihood that Minnesota would meet its obligations to the EPA under the approved TMDL. In addition, Minnesota's contribution to the problem of mercury deposition would not be addressed.

Failure to reduce the amount of mercury entering Minnesota's surface waters means a likely failure of meeting the fish tissue goal for mercury content. This result places a health burden on individuals in the

state. The risks of developmental or neurological impacts in children would continue. Residents and visitors would still have to limit the amount and type of fish they consume.

This rulemaking also incorporates several federal New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutant (NESHAP) by reference. For the MPCA to maintain its authority under federal law to operate an air quality program, the federal standards must have the force of law in Minnesota. If the MPCA fails to adopt these federal regulations, owners and operators will need to seek interpretation of standards and compliance demonstration acknowledgement from EPA. Additionally, violations would be enforced by EPA and not by the MPCA.

In addition, a rule ensures that similar facilities within Minnesota are treated consistently.

> *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."*

The MPCA proposes that certain existing federal regulations that regulate air emissions of mercury will be the first choice to address mercury emission sources as defined in part 7005.0100, subpart 23b. In that respect, Minnesota's approach will be identical to federal regulations.

If no federal requirements apply to a mercury emission source or if the federal mercury emission limit is not consistent with the TMDL reductions in the Implementation Plan, then this rulemaking provides work practices or performance standards for that sector to achieve their mercury emissions reduction target. To achieve the mercury reduction targets of the statewide TMDL, Minnesota must address sources of mercury in the state. These new rules are generally for sectors for which the EPA is not developing national regulations.

The EPA standards for electric utility steam generating units apply to EGUs over 25 megawatts and exclude sources which emit less than 29 lb/yr or less of mercury. Some EGUs in Minnesota meet the federal exclusion. However, without reductions from these EGUs, Minnesota will not meet the TMDL reduction goal of 789 lb/yr. Therefore, the proposed rules would include controls, monitoring and compliance requirements for EGUs currently emitting less than 29 lb/yr.

The following are the federal regulations being incorporated by reference.

- Code of Federal Regulations, title 40, part 63, subpart UUUUU, as amended, entitled "National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units"
- Code of Federal Regulations, title 40, part 60, subpart LLLL, as amended, entitled "Standards of Performance for New Sewage Sludge Incineration Units"
- Certain elements of the Code of Federal Regulation, title 40, part 60, Subpart MMMM, Emission Guidelines and Compliance Times for Existing Sewage Sludge Incineration Units
- Code of Federal Regulations, title 40, subpart DDDD, sections 60.2575 to 60.2875,as amended, entitled "Emission Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incineration Units
- Code of Federal Regulations, title 40, part 60, subpart CCCC, as amended, entitled "Standards of Performance for Commercial and Industrial Solid Waste Incineration Units"

- Code of Federal Regulations, title 40, part 63, subpart JJJJJJ, as amended, entitled "National Emission Standards for Hazardous Air Pollutants (HAPs) for Industrial, Commercial, and Institutional Boilers Area Sources,"
- Code of Federal Regulations, title 40, part 63, subpart DDDDD, as amended, entitled "National Emission Standards for HAPS for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters"

8. "An assessment of the cumulative effect of the rule with other federal and state regulations related to the specific purpose of the rule...."cumulative effect" means the impact that results from incremental impact of the proposed rule in addition to other rules, regardless of what state or federal agency has adopted the other rules.

The MPCA proposes to address sources that do not have an existing state or federal requirement that controls or limits mercury. In the absence of a federal or statutory requirement, then a mercury emission source would follow proposed new MPCA rule requirements. The proposed rules include a mercury emissions reduction plan, and reporting and performance standards for mercury emission sources as defined by the rule. Because the MPCA proposes to address its rulemaking primarily to sectors or units that are not already covered by another regulatory requirement to control or reduce mercury air emissions, there should be minimal cumulative impacts for those sectors or units.

An additional requirement under the proposed rules would be annual reporting of mercury air emissions. Most air emission sources likely to be affected by the proposed rules already report to the annual air pollutant inventory, so the mercury reporting requirement would simply add another pollutant to the inventory.

The federal rules proposed for incorporation into state rules by this rulemaking are listed in item (7) above. The MPCA anticipates no further mercury reduction activities for the emission sources subject to these standards, but for those sources subject to the final federal standards for ICI boilers. The federal emission control requirements of this standard are not expected to achieve mercury reductions at these facilities necessary to meeting the statewide goal of 789 lb/yr. Therefore, some facilities with ICI boilers may need to take action under this rulemaking to further limit mercury emissions. These actions may include fuel switching or added control equipment. In those cases, the facility would incur additional costs beyond the requirements of the federal standards.

Anticipated impacts related to these additional regulatory requirements are discussed in Section XII, Consideration of Economic Factors.

9. "Describe how the agency, in developing the rules, considered and implemented the legislative policy supporting performance-based regulatory systems set forth in section 14.002." Minnesota Statutes § section 14.002 states:

"...the legislature finds that some regulatory rules and programs have become over prescriptive and inflexible, thereby increasing costs to the state, local governments, and the regulated community and decreasing the effectiveness of the regulatory program. Therefore, whenever feasible, state agencies must develop rules and regulatory programs that emphasize superior achievement in meeting the agency's regulatory objectives and maximum flexibility for the regulatory party and the agency in meeting those goals..."

The MPCA and potential regulated sources have spent considerable time and efforts in reducing mercury emissions through voluntary measures. However, the voluntary programs have demonstrated that they are not capable of achieving the reductions needed.

In developing the rule requirements, the MPCA has been mindful of the economic resources needed to achieve the mercury reduction objectives, and has incorporated a number of measures designed as performance-based measures:

- The MPCA has specifically chosen to use reduction plans in place of technical standards to allow for site-specific conditions.
- Mercury emission sources are required to develop their own reduction plan, allowing for the development of the most efficient and effective approach for each affected facility.
- The proposed rule acknowledges that other federal or state mercury reduction requirements can meet the objectives outlined in the TMDL, thus allowing reductions under other rules to meet the objectives of this rulemaking. This has the advantage of not placing additional burdens on sources that are already working towards reducing mercury. Instead, "new" requirements really focus on those sources that need to be regulated in order to ensure mercury reductions to meet the TMDL reduction target of 789 lb/yr in 2025.
- When standards of performance are needed to achieve the reduction requirements, conditions are established to reward "superior compliance" through reducing frequency of performance testing.

10. "Describe the Agency's efforts to provide additional notification under section 14.14, subdivision 1a, to persons or classes of persons who may be affected by the proposed rule or must explain why these efforts were not made."

Minn. Stat. § 14.14, subd. 1a. Notice of rule hearing, item (a), states the following:

(a) Each agency shall maintain a list of all persons who have registered with the Agency for the purpose of receiving notice of rule proceedings. Persons may register to receive notice of rule proceedings by submitting to the Agency:

(1) their electronic mail address; or
(2) their name and United States mail address

The agency may inquire as to whether those persons on the list wish to maintain their names on it and may remove names for which there is a negative reply or no reply within 60 days. The agency shall, at least 30 days before the date set for the hearing, give notice of its intention to adopt rules by United States mail to all persons on its list, and by publication in the State Register. The mailed notice must include either a copy of the proposed rule or an easily readable and understandable description of its nature and effect and an announcement that a free copy of the proposed rule is available on request from the agency. In addition, each agency shall make reasonable efforts to notify persons or classes of persons who may be significantly affected by the rule being proposed by giving notice of its intention in newsletters, newspapers, or other publications, or through other means of communication. The notice in the State Register must include the proposed rule or an amended rule in the form required by the revisor under section 14.07, together with an easily readable and understandable summary of the overall nature and effect of the proposed rule, a citation to the most specific statutory authority for the

proposed rule, a statement of the place, date, and time of the public hearing, a statement that persons may register with the agency for the purpose of receiving notice of rule proceedings and notice that the agency intends to adopt a rule and other information required by law or rule. When an entire rule is proposed to be repealed, the agency need only publish that fact, along with an easily readable and understandable summary of the overall nature of the rules proposed for repeal, and a citation to the rule to be repealed.

The MPCA considered these statutory requirements governing additional notification, and as detailed in the Additional Notice Plan above, plans to ensure full compliance with them. Also, as detailed in Section IV, Public Participation and Stakeholder Involvement in the Rule Process, the MPCA has made reasonable efforts, thus far, to notify and involve the public and stakeholders in the rule process, including holding various meetings and publishing public notice of a Request for Comments on the planned new air quality rules governing mercury emissions in the *State Register* on July 27, 2009.

XI. ADDITIONAL NOTICE PLAN

The MPCA intends to request that the Office of Administrative Hearings review and approve an Additional Notice plan, pursuant to Minn. R. 1400.2060.

On July 27, 2009, the MPCA published public notice of a Request for Comments on Planned New Rules Governing Mercury Emissions Reporting and Reduction, and Rule Amendments Governing Air Emissions Permits, Emission Inventory Reporting and Miscellaneous Definitions and Incorporations by Reference to be Codified in Minnesota Rules chapters 7001, 7005, 7007, 7011, 7017, and 7019. The same notice was also placed on the MPCA's public notice webpage. Notice of the Request for Comments was sent via e-mail to the Air Quality Technical Information mail list subscribers; and sent via U.S. mail to the mercury stakeholder work group, the list of identified mercury sources and potential large sources, and all parties on the MPCA notification list; the list of those persons who wished to register to receive notices under Minn. Stat. ch. 14 (the M-List).

In early 2012, the MPCA implemented an electronic notification system called GovDelivery to send electronic bulletins to subscribers regarding public and rule notices. The notification system allows users to customize what topics they would like updates on and the frequency of those updates from the MPCA. This system is designed to provide additional notification to parties that we were not reaching before.

The MPCA alerted all parties on its former notification list (the M-List) to register on the Agency GovDelivery system. It made the option available for people to still receive paper copies via U.S. mail if they would like; however, the MPCA had very few requests for paper copies. The former M-List had about 300 subscribers for whom it was difficult to maintain accurate contact information. Now, interested persons can maintain their own contact information and easily self-subscribe/unsubscribe to specific topics or rules of interest.

In the new system, the MPCA created a topic that alerts interested parties to all new rulemaking activities so users can add these to their subscription list if they are interested. The MPCA now has more than 14,000 subscriptions for rule notices in the new system. With this new strategy/system, the MPCA believes it is likely to reach far more people with rules notices than in the past.

The MPCA hosts a GovDelivery subscription system topic for these proposed rules on its webpage under "GovDelivery/Public notices and rulemaking/Rulemaking - active projects/Air/Mercury Emission Inventory Reporting and Reduction Requirements." The MPCA plans to send its Notice of Intent to Adopt rules to all parties registered with the GovDelivery system for this rule and related topics. The MPCA plans to produce a list of persons registered to receive these rules on its GovDelivery system at the time of the notice.

The MPCA's Additional Notice Plan includes giving notice as required by statute.

A. The MPCA plans to send an electronic notice with a hyperlink to electronic copies of the Notice of Intent to Adopt Rules, proposed rules, and the SONAR to all parties who have registered electronically (GovDelivery) with the MPCA for the purpose of receiving notice of rule proceedings, as required by Minn. Stat. § 14.14, subd. 1a, on the date the Notice is published in the *State Register*, which shall be at least 33 days before the end of the public comment period. The MPCA plans to produce a list of persons registered to receive notice of these rules on its GovDelivery system at the time of the Notice.

B. Individuals and representatives of associations the MPCA has on file as interested and affected parties that do not wish to receive an electronic notice shall be mailed a paper copy of the Notice of Intent to Adopt Rules and proposed rules.

C. The MPCA plans to send a cover letter with a hyperlink to electronic copies of the Notice of Intent to Adopt Rules, proposed rules, and SONAR to the chairs and ranking minority party members of the legislative policy and budget committees with jurisdiction over the subject matter of the proposed rules, and to the Legislative Coordinating Commission, as required by Minn. Stat. § 14.116. The timing of this notice will occur at least 33 days before the end of the comment period.

D. The MPCA will send a copy of the SONAR to the Legislative Reference Library in accordance with Minn. Stat. § 14.131 when the notice of hearing is mailed under Minn. Stat. § 14.14, subd. 1a. The timing of this notice will occur at least 33 days before the end of the comment period.

E. Minn. Stat. § 14.116 also states that if the mailing of the notice is within two years of the effective date of the law granting the agency authority to adopt the proposed rules, the agency must make reasonable efforts to send a copy of the notice and SONAR to all sitting house and senate legislators who were chief authors of the bill granting the rulemaking. This requirement does not apply because the MPCA is using its general rulemaking authority for these rules, and no bill was authored within the past two years granting special authority for this rulemaking.

F. At least 33 days before the end of the comment period, the MPCA plans to send an electronic notice with a hyperlink to electronic copies of the Notice of Intent to Adopt Rules, proposed rules, and the SONAR to the following affected stationary source facilities:
Ferrous Mining or Processing
    - *Keewatin Taconite*
    - *Hibbing Taconite*
    - *Arcelor Mittal*
    - *MinnTac*
    - *United Taconite*

- *Essar*
- *Mesabi Nugget*

Iron Melting
- *Gerdau Ameristeel, St. Paul*

Industrial, Commercial, and Institutional (ICI) Boilers
- *American Crystal Sugar, Moorhead*
- *American Crystal Sugar, East Grand Forks*
- *Southern Minnesota Beet Sugar Coop*
- *Northshore Mining*
- *City of Hibbing Public Utilities*
- *City of Virginia Public Utility*
- *Archer Daniels Midland, Mankato*

Electric Generating Units (EGUs)
- *Xcel Energy*
- *Minnesota Power*
- *Great River Energy*
- *Ottertail Power Company*
- *Southern Minnesota Municipal Power Authority*
- *City of Rochester Public Utilities*
- *City of Austin Public Utilities*
- *Cleveland Cliffs (will be notified as a taconite facility)*

Commercial/Industrial Solid Waste Incinerators (CISWI)
- *Fibrominn, Benson County*
- *Endress Processing, Rosemount*

Sewage Sludge Incinerators (SSI)
- *Metropolitan Council Environmental Services, Pigs Eye plant, St. Paul*
- *Metropolitan Council Environmental Services, Seneca plant, Eagan*
- *City of Buffalo*

Municipal Waste Combustors (MWCs)
- *Covanta Hennepin Energy Recovery Corporation*
- *Xcel Energy*
- *Great River Energy*
- *City of Red Wing*
- *Pope Douglas*
- *Prairie Lakes*
- *Polk County*
- *Olmsted County*

Hospital Waste Incinerator
- *Mayo Hospital, Rochester*

G. At least 33 days before the end of the comment period, the MPCA plans to send an electronic notice with a hyperlink to electronic copies of the Notice of Intent to Adopt Rules, proposed rules, and the SONAR to the Statewide Mercury TMDL Implementation Plan Oversight Committee. This group provided significant input on the Statewide Mercury TMDL Implementation Plan which led to this rulemaking. The Committee includes new environmental members of the Chamber of Commerce, and the following environmental groups; Minnesota Center for Environmental Advocacy and the Izaak Walton League. Though the MPCA has encouraged members of this stakeholder group to subscribe to GovDelivery to receive

notifications regarding this rulemaking; it is appropriate to send a separate e-mail notification to help ensure that these members are notified of the proposed rules.

In addition, a separate electronic notice will also be sent to the representatives of the Minnesota Technical Tribal Meeting (which includes all seven Native American Tribes). The MPCA met individually with the Technical Tribal Meeting members and new representatives from the various interest groups in July 2013, and this method of communication helps ensure that these members are notified of the proposed rules.

In addition, a copy of the Notice of Intent to Adopt Rules, proposed rules, and SONAR will be posted on the MPCA's public notice webpage at: http://www.pca.state.mn.us/iryp3c9.

The MPCA believes that by following the steps of this Additional Notice Plan, and its regular means of public notice, including publication in the *State Register* and on the MPCA's public notice webpage, the Agency will adequately provide notice of this rulemaking to persons interested in or regulated by these rules, pursuant to Minn. Stat. § 14.14, subd. 1a.

XII. CONSIDERATION OF ECONOMIC FACTORS

In exercising its powers, the MPCA is required by identical provisions in Minn. Stat. § 116.07, subd. 6, and Minn. Stat. § 115.43, subd. 1, to give due consideration to:

> *"...the establishment, maintenance, operation and expansion of business, commerce, trade, industry, traffic, and other economic factors and other material matters affecting the feasibility and practicability of any proposed action, including, but not limited to, the burden on a municipality of any tax which may result there from, and shall take or provide for such action as may be reasonable, feasible, and practical under the circumstances..."*

Affected Facilities

This rulemaking is being undertaken to secure reductions of mercury from existing air emission sources statewide. The facilities are owned by a mix of owners: private corporations businesses, public utilities, municipal utilities, municipalities, and a regional quasi-governmental agency (Metropolitan Council Environmental Services).

As discussed elsewhere, the MPCA estimates that by the time this rule is effective, there will be 35 facilities designated as mercury emission sources in Minnesota that will be required to report mercury emissions annually to the MPCA. The reporting requirements apply to all mercury emission sources, those existing at the time of rule adoption, and any mercury emission sources constructed afterwards.

The rule requires first that a facility prepare a plan for reducing mercury, then implementation after the MPCA has approved the plan. By 2025, the final compliance deadline of the rule, 14 taconite furnaces at seven facilities, one iron melting facility, 10 industrial or municipal utility boilers at nine facilities, and potentially one lime kiln will be subject to the requirements to reduce mercury emissions to the air to meet the TMDL mercury reductions.

As previously discussed, this proposed rule incorporates already existing federal and state requirements to achieve mercury reductions for certain sectors. This strategy minimizes the potential economic

impact on those sources subject to federal standards that will achieve Minnesota's objective of reduction mercury emissions. The federal standards of performance apply to 22 EGUs at nine facilities, one solid waste combustion unit at an industrial waste facility, seven sewage sludge facilities at three wastewater treatment plants, nine MWC facilities, and one hospital waste incineration facility.

The proposed amendments to chapters 7005, 7007, 7011, and 7019 are administered by the MPCA as there are no local air districts that issue air emission permits. Local units of government (LGUs) are subject to standards because they own and operate sewage sludge incinerators and electricity generating units burning coal. The LGUs already hold permits from the MPCA and are already subject to control requirements by EPA.

Total Annual Cost of Proposed Rule

The proposed rules are requiring reduction plans from facilities to meet the reduction target of the Minnesota mercury TMDL. Actions will be necessary at certain facilities to reduce mercury emissions, some of those actions requiring capital investment and related ongoing annual costs to operate air pollution controls.

Table 2. Summary of Estimate Annualized Cost and Mercury Emission Reduction

Sector	Number of Affected Units/Facilities	Total Capital Costs	Total Annual Cost	Pounds of Mercury Reduced
Ferrous Mining and processing	14 furnaces	$109,000,000	$22,800,000	782
Iron and Steel Melters	1 unit	$3,000,000	$523,000	26
Industrial Boilers	10 boilers	$25,313,000	$4,250,000	75
Mercury Reduction Plan Preparation	17 facilities	$460-$800,000		
Mercury Emissions Reporting	35 facilities		$10,000	
TOTAL		**$137,773,000**	**$32,500,000**	**883**

The development of the estimated costs of compliance with this rule are contained in Attachment 7, "Estimated Costs Related to the Implementation of the Mercury Reduction Rules".

Costs of this rulemaking are expressed in terms of capital investment to purchase and install activated carbon injection (ACI), and additional particulate matter control if warranted, and annual costs related to due to operation of mercury controls, recordkeeping and reporting.

The MPCA sought to estimate reasonable upper-bound estimates assuming sources install ACI. Other control strategies are possible, and are likely lower cost to a specific facility. Other available or developing control strategies are discussed in Attachment 7 for each sector.

The proposed rule requires a facility owner to prepare a plan for reducing mercury emissions, and is structured to allow facility owners to make choices that should lower the economic impact—emissions averaging if there is more than one unit, using a combination of technologies. The rule also provides for very long compliance timeframes, allowing for technology developments to improve control efficiencies and minimize costs. The MPCA believes that providing this flexibility in implementing this rule would

result in costs lower than currently estimated, particularly within the ferrous mining and processing sector. Mercury controls within the ferrous mining and processing sector represent the majority of the capital and operating costs of this rulemaking, and are purposefully estimated as high, worst-case costs to account for as –yet unknown impacts of ACI at these furnaces.

Activated carbon injection is a well-developed technology for coal-fired boilers. The cost estimate for ACI at industrial boilers is also expected to be reasonable upper bound estimates. Within this sector, additional stack testing to confirm emissions will likely be the first step undertaken to determine if the boiler is near the five pound threshold. Again, the MPCA believes that given the use of generic emission factors within this sector, this estimate is high and will likely shrink as more data is developed.

Facilities required to prepare reduction plans under this rule—but for two municipal-owned utilities—are owned and operated by very large corporations competing in global markets. The ferrous mining/processing industry and sugar beet processing industries in Minnesota are each billion dollar a year sectors in Minnesota economy, and are growing. The MPCA believes that flexibility within the rule will minimize its costs, and for those facilities that are affected, the cost of compliance is not significant.

Compliance with Federal Rules

This rulemaking proposes to adopt by reference a number of federal rules regulating emissions of mercury, in addition to a number of other hazardous air pollutants (HAPs). Within this rulemaking, the MPCA seeks to give the federal rules the force of state law, a necessary provision when seeking delegation of the standard from the EPA.

Federal rules controlling mercury affect ICI boilers and process heaters at major HAP sources, ICI boilers at area sources, sewage sludge incinerators, and commercial and industrial solid waste incinerators. The federal standards have been evaluated to determine whether in the act of incorporating the federal rules into state rules, additional action by an affected facility is required, and if so, what the addition costs are related to the state rulemaking action. The MPCA has determined that no additional costs are expected as a result of standards being incorporated by reference into state rules.

XIII. IMPACT ON FARMING OPERATIONS

Minn. Stat. § 14.111 requires an agency to provide a copy of the proposed rule changes to the Commissioner of Agriculture no later than 30 days prior to publication of the proposed rule in the *State Register,* if the rule has an impact on agricultural land.

This rule is not expected to impact agricultural land or farming operations, thus, the Commissioner of Agriculture will not be notified.

XIV. IMPACT ON CHICANO/LATINO PEOPLE

Minn. Stat. § 3.9223, subd. 4 requires agencies to give notice to the State Council on Affairs of Chicano/Latino People for review and recommendation at least five days before initial publication in the *State Register*, if the proposed rules have their primary effect on Chicano/Latino people.

This rule is not expected to have a primary effect on Chicano/Latino people, thus, the State Council on Affairs of Chicano/Latino People will not be notified.

XV. NOTIFICATION OF THE COMMISSIONER OF TRANSPORTATION

Minn. Stat. § 174.05, requires the MPCA to inform the Commissioner of Transportation of all rulemakings that concern transportation, and requires the Commissioner of Transportation to prepare a written review of the rules.

This rule is not expected to impact or concern transportation, thus, the Commissioner of Transportation will not be notified.

XVI. CONSULT WITH MINNESOTA MANAGEMENT AND BUDGET ON LOCAL GOVERNMENT IMPACT

As required by Minn. Stat. § 14.131, the MPCA consults with Minnesota Management and Budget (MMB) by sending MMB copies of the documents sent to the Governor's office for review and approval at the same time. The documents include: the Governor's Office Proposed Rule and SONAR Form; the proposed rules; and the SONAR. The MPCA will submit a copy of the cover correspondence and any response received from MMB to the Office of Administrative Hearings at the hearing or with the documents it submits for Administrative Law Judge review.

XVII. DETERMINATION IF LOCAL GOVERNMENT WILL BE REQUIRED TO ADOPT OR AMEND AN ORDINANCE OR OTHER REGULATION TO COMPLY WITH PROPOSED AGENCY RULE

During the 2009 legislative session, the Minnesota Legislature adopted Minn. Stat § 14.128. This statute requires an agency to make a determination whether a proposed rule would require a local government to adopt or amend its ordinances to comply with the rule. This statute is intended to address situations where an agency requires local governments to change their ordinances to, for example, be consistent with agency requirements.

The proposed amendments to chapters 7005, 7007, 7011, and 7019 do not require local governments to amend their ordinances to comply with the MPCA's rules. In Minnesota, these rules are administered by the MPCA as there are no local air districts that issue air emission permits. Permits for facilities on tribal land are issued by EPA. No changes to local ordinances are required or anticipated in order to comply with these rules.

XVIII. DETERMINATION IF THE COST OF COMPLYING WITH A PROPOSED RULE IN THE FIRST YEAR AFTER THE RULE TAKES EFFECT WILL EXCEED $25,000 FOR A SMALL BUSINESS OR CITY.

Minn. Stat. § 14.127, Subd. 1 requires the MPCA to assess the potential economic impact to small businesses or cities of this proposed rule. The statutory provision is as follows:

> *An agency must determine if the cost of complying with a proposed rule in the first year after the rule takes effect will exceed $25,000 for: (1) any one business that has less than 50 full-time employees; or (2) any one statutory or home rule charter city that has less than ten full-time employees.*
>
> *For purposes of this section, "business" means a business entity organized for profit or as a nonprofit, and includes an individual, partnership, corporation, joint venture, association, or cooperative.*

The Agency believes that the cost of complying with the proposed rule in the first year is not likely to exceed the statutory $25,000 cost threshold for any one business with less than 50 full-time employees or for any one statutory or home rule charter city with fewer than ten full-time employees.

The MPCA evaluated the possible costs of this rule to a small business. The definition of "mercury emission source" is intended to offer regulatory relief to sources with very low actual emissions, which are typically small businesses. The MPCA does not believe that there is a small business in Minnesota that is subject to the mercury reduction requirements of the rule. If a small businesses needs to report mercury air emissions as part of the inventory requirements of this rule, the business is likely to already be reporting emissions of other pollutants, and the cost to comply with the reporting requirements will be under $25,000 in the first year after the rule is effective.

While several cities that operate coal fired boilers that are subject to the provisions of the rule, the cities have more than 10 full time employees and thus this provision will not apply.

XIX. ASSESSMENT OF DIFFERENCES BETWEEN THE PROPOSED RULE AND FEDERAL STANDARDS, RULES IN BORDERING STATES AND RULES IN STATES WITHIN EPA REGION V

Minn. Stat. 116.07 (f) requires that for rulemaking to adopt standards for air quality, the SONAR must include an assessment of any differences between the proposed rule and existing federal standards adopted under the Clean Air Act, United States Code, title 42, section 7412(b)(2); similar standards in states bordering Minnesota; and similar standards in states within EPA Region V; and a specific analysis of the need for and reasonableness of each difference.

Comparison to Federal Standards

The proposed rule has been structured such that the first choice for mercury emission sources is to follow applicable federal requirements for mercury air emissions under the NESHAPs or NSPSs. Several federal regulations are incorporated by reference and therefore Minnesota's requirements are identical to federal rules. In general, if a federal requirement applies, this rulemaking does not impose additional controls or work practices.

However, if no federal requirements apply or if the federal rule is not consistent with the reductions in the TMDL Implementation Plan, then the rule specifies work practices or performance standards as identified in this rule. This additional level of regulation is intended to ensure that all mercury emission sources in the industrial sectors identified in the rule contribute their share to the reductions needed to meet the TMDL target.

Comparison to Neighboring States and Region V States

The MPCA has reviewed mercury-related rules for the states that border Minnesota (Iowa, Wisconsin, Michigan, South Dakota, and North Dakota) and non-border states in EPA Region V (Ohio, Illinois, Indiana). This list focuses on efforts similar to this rulemaking and does not include initiatives related to dental amalgam, product content, or recycling and hazardous waste management.

Minnesota Statute also requires a specific analysis of the need for and reasonableness of each difference from federal and neighboring state air quality standards. The specific need for and reasonableness of each of the listed criteria is fully described in this SONAR. When comparing the proposed rule to other state rules, the specific need and reasonableness under each of the criteria are compared with other states.

Minnesota was the first state in the nation to secure EPA approval for its statewide mercury TMDL. Michigan is in the process of developing a statewide TMDL and placed its TMDL on public notice in 2013. Nationally, a statewide mercury TMDL has been approved in New Jersey (2009). The Northeast Regional Mercury TMDL covers the states of Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island and Vermont and was developed in cooperation with the New England Interstate Water Pollution Control Commission.

Several states are in the process of preparing or implementing their statewide TMDLs. South Dakota conducted a public comment period on its statewide mercury TMDL in 2011. North Carolina and Florida are working on statewide mercury TMDLs. The state of Florida released its initial draft statewide TMDL on May 24, 2012. The Florida Department of Environmental Protection has released revised versions of the document, most recently on November 8, 2012. Some states, such as Michigan, Florida, Nevada and California, also have mercury TMDLs for specific water bodies or watersheds.

States Surrounding Minnesota

State	Mercury regulation
Illinois	• Adopted Clean Air Mercury Rule o July 1, 2008: 5 units required to install and operate mercury controls pursuant to the Combined Pollutant Standard o Utility rule (5 units) – Phase 1 from July 1, 2009 – December 31, 2012 o System wide average reduction of 90 percent or 0.0080 lb/GW-hr o Plant-wide minimum of 75 percent reduction or 0.020 lb/GW-hr o Option for Temporary technology-based standard o Utility rule (5 units) – Phase 2 starting January 1, 2013: o System wide average reduction of 90 percent or 0.0080 lb/GW-hr o Option for Temporary technology-based standard o Multi-pollutant standard (3 companies) – provide flexibility for mercury provided significant reductions are made to sulfur dioxide and oxides of nitrogen emissions
Indiana	• The reporting of mercury emissions to IDEM is not a requirement; however sources are required to pay fees for mercury emissions. • State regulations on mercury releases from sewage sludge incinerators, hazardous waste, municipal solid waste incinerators, medical waste incinerators, cement kilns, drum top crushers, and broken mercury-containing products and spills. Adoption of federal MACT for commercial and institutional solid waste incinerators. • Adopted NESHAP standard for commercial and institutional solid waste incinerators. • Limit mercury releases from incinerators, cement kilns, drum top crushers and broken mercury-containing products. • Awaiting final NESHAP for Utilities • Some water reaches identified in 2012 assessment to have mercury impairments. No TMDLs proposed to date.

State	Mercury regulation
Iowa	• Awaiting final NESHAP for Utilities • Implements promulgated NESHAPs • Has monitoring requirement for EGUs • Iowa Administrative Code ENVIRONMENTAL PROTECTION COMMISSION [567]Ch. 22 Controlling Pollution, part 22.3(5) *Modification of a permit.* The director may, after public notice of such decision, modify a condition of approval of an existing permit for a major stationary source or an emission limit contained in an existing permit for a major stationary source if necessary to attain or maintain an ambient air quality standard, or to mitigate excessive deposition of mercury. • Rescinded CAMR rule *Emission guidelines for mercury for coal-fired electric utility steam generating units.* Rescinded IAB 10/7/09, effective 11/11/09.
Michigan	• On January 30, 2008, the MDEQ Mercury Strategy Workgroup, released the *MDEQ Mercury Strategy Staff Report* to develop a strategy that eliminates anthropogenic or human mercury use and release to Michigan's environment. This comprehensive mercury report includes 67 recommendations. The desired outcome is to make Michigan's fish safe to eat and allow state-wide fish consumption advisories relating to mercury to be removed. • Formed Mercury Strategy Workgroup, February 26, 2010 • Statewide mercury TMDL: contractor hired in 2011. Expected final TMDL in fall 2013. • NOTE: Enforcement of 2009 Rule 1512 (CAMR) was SUSPENDED as of June 1, 2012 o October 16, 2009 Rule #1512 – Utility mercury reduction of 90 percent or 0.0080 lb/GW-hr required starting January 1, 2015 OR Multi-pollutant standard – provide flexibility for mercury provided significant reductions are made to sulfur dioxide and oxides of nitrogen emissions. Very Low Mass Emitting units (less than 9 lb mercury per 12-month rolling time period) with alternative compliance demonstration project. • Outreach for area source NESHAP for Electric Arc Furnace Steelmaking Area Sources
Ohio	• Awaiting final NESHAP for Utilities
North Dakota	• Awaiting final NESHAP for Utilities • *North Dakota 2012 Integrated Section 305(b) Water Quality Assessment Report and Section 303(d) List of Waters Needing Total Maximum Daily Loads* states, "Based on the EPA fish tissue of 0.3 micrograms (□g) methyl-mercury/gram of fish tissue, only the Red River of the North was assessed as not supporting fish consumption. While there are many potential sources of methylmercury (both anthropogenic and natural), to date there have been no specific causes or sources identified for the mercury present in North Dakota fish." • The Department of Health has authority to control hazardous air pollutant (HAP) emissions under Section 33-15-02-04. The Department's *POLICY FOR THE CONTROL OF HAZARDOUS AIR POLLUTANT EMISSIONS IN NORTH DAKOTA* is applicable to all new or modified air contaminant sources required to submit an application for a Permit to Construct. The policy includes guideline concentrations for mercury compounds. Facilities subject to a NESHAP and minor sources may be exempt.

State	Mercury regulation
South Dakota	• Adopted national emission standards for various sectors. • Statewide mercury TMDL states "Because the atmospheric load allocation for mercury in South Dakota is primarily due to emissions from other states or even other countries, the state supports efforts to control mercury emissions through national or international programs. For mercury sources within the state of South Dakota the SDDENR will continue to use the permit process to control mercury wastes and/or mercury emissions." from MERCURY TOTAL MAXIMUM DAILY LOAD EVALUATION FOR THE STATE OF SOUTH DAKOTA, MAY 2011.
Wisconsin	• Wisconsin Administrative Code NR 446 (December 1, 2008) • Large EGUs (150 megawatt and above): mercury reduction of 90 percent or 0.0080 lb/GW-hr required by January 1, 2015 or follow multi-pollutant standard that has interim and final reductions for mercury, sulfur dioxide and oxides of nitrogen. • Small EGUs (between 25 – 150 megawatt) must install best available control technology by January 1, 2015. • 4 utilities must have reduced mercury by 40 percent by January 1, 2010.

While it is difficult to make a direct comparison, the above information leads the MPCA to believe that the proposed rules generally reflect an approach that is consistent with those currently being pursued by the above states to reduce mercury.

XX. LIST OF AUTHORS, WITNESSES AND SONAR ATTACHMENTS

A. Authors.

- Barbara Conti
- Anne Jackson, P.E.

B. Witnesses.

The MPCA anticipates that the proposed amendments will be controversial, and that public hearings will be necessary. The MPCA anticipate having the following witnesses testify in support of the need for and reasonableness of the rules:

1) Barbara Conti, MPCA. Ms. Conti is the project manager for this rulemaking and will testify on questions pertaining to the overall development of the rule.
2) Anne Jackson, MPCA. Ms. Jackson is an engineer at the MPCA. She will testify on technical and economic aspects of the rule, including mercury control technologies, monitoring of mercury, the estimated cost of mercury pollution controls.
3) Mary H. Lynn, MPCA. Ms. Lynn is the project rule coordinator and will testify on any Minnesota Administrative Procedures Act process questions.
4) Kathleen Winters, MPCA. Ms. Winters is General Counsel to the Minnesota Pollution Control Agency and will introduce the required jurisdictional documents into the record.
5) Dr. Bruce Monson, MPCA. Dr. Monson is the principal author of Minnesota's Statewide Mercury Total Maximum Daily Load Study, and will testify to issues and comments related to this TMDL. His expertise includes evaluation of fish contamination trends and possible factors contributing to trends.

C. SONAR Attachments

1) Minnesota Department of Health fish consumption guidelines
2) Minnesota Statewide Mercury Total Maximum Daily Load Study, Final* March 27, 2007 (*Approved by EPA March 27, 2007)
3) Implementation Plan for the Minnesota Statewide Mercury Total Maximum Daily Load Study, October 2009
4) Memorandum of Agreement between the MPCA and the EPA, Region V, Regarding Section 112, Clean Air Act Implementation
5) Letter from Valdas V. Adamkus, Regional Administrator, EPA Region V, to Thomas J. Kalitowski, Executive Director, MPCA, August 25, 1986
6) EPA Summaries of Section 319(g) Management Conference on June 22-23, 2010
7) Estimated Costs Related to the Implementation of the Mercury Reduction Rule, MPCA, July 2013

XXI. CONCLUSION

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

10/18/13
Date

John Linc Stine, Commissioner
Minnesota Pollution Control Agency