

STATE OF MINNESOTA
MINNESOTA POLLUTION CONTROL AGENCY

In the Matter of the Proposed Amendments
of Rules Governing the Management, Storage
and Treatment of Hazardous Waste, Minn.
Rules Pts. 7001.0520, 7045.0020, 7045.0102,
7045.0120, 7045.0125, 7045.0214, 7045.0219,
7045.0665, 7045.0692 and 7045.0695.

STATEMENT OF
NEED AND
REASONABLENESS

Minnesota Pollution Control Agency
520 Lafayette Road
St. Paul, Minnesota 55155

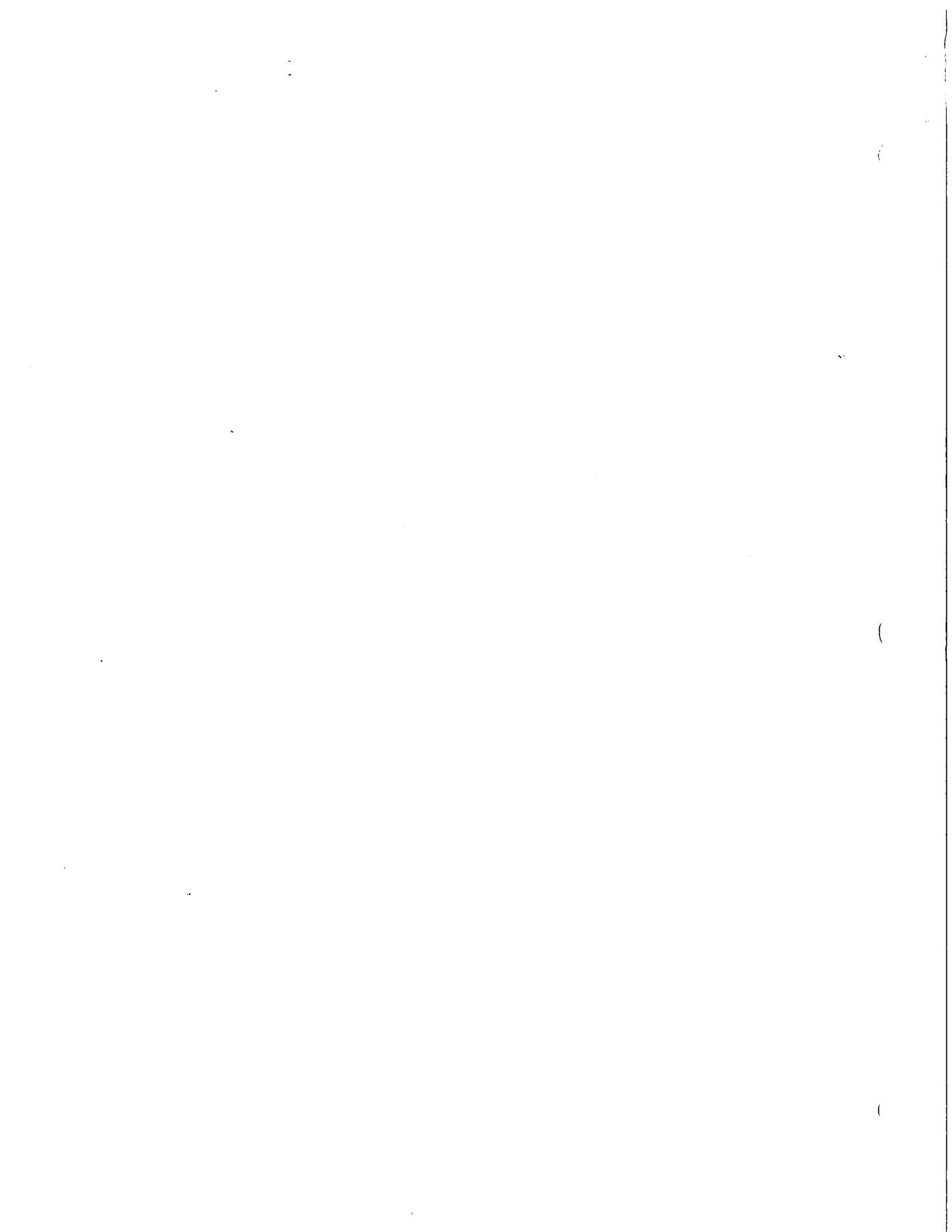


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- Exhibit 1 November 29, 1985 Federal Register
- Exhibit 2 April 13, 1987 Federal Register
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- Exhibit 5 Solvent Concentration vs Flash Point
- Exhibit 6 January 11, 1985 Federal Register

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STATEMENT OF
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I. INTRODUCTION

The subject of this proceeding is the adoption of rules of the Minnesota Pollution Control Agency (hereinafter "Agency") governing the management, storage and treatment of hazardous waste. These amendments incorporate into the state rules four sets of revisions to the federal hazardous waste regulations promulgated by the United States Environmental Protection Agency (hereinafter "EPA"). The proposed amendments pertain to the following:

A. The regulation of hazardous waste burned for energy recovery in industrial furnaces, industrial boilers, or utility boilers. The amendments place storage and administrative controls on marketers and burners of hazardous waste fuel.

B. Conditions for management of used oil burned for energy recovery. The amendments establish administrative requirements for marketers and burners of used oil fuel.

C. The prohibition of land application of used oil. The amendments establish restrictions for hazardous waste contaminated materials and used oil from being used as a dust suppressant or for road treatment.

D. Incorporation of technical corrections to the existing federal requirements for recyclable materials. The correction adds an exemption for certain waste derived fuels.

The rules regarding used oil burned for energy recovery (used oil fuel) and hazardous waste burned for energy recovery (hazardous waste fuel) are addressed

in the Federal Register published on November 29, 1985 (Exhibit 1), with technical corrections published on April 13, 1987 (Exhibit 2). The land application prohibition was promulgated and published in the Federal Register on July 15, 1985 (Exhibit 3). The technical corrections to the definition of hazardous waste were published in the August 20, 1985, Federal Register (Exhibit 4) and additional exemptions are provided in the November 29, 1985, Federal Register.

The federal amendments exempting certain waste-derived fuels were promulgated by EPA under the authority of the Resource Conservation and Recovery Act (RCRA). The federal amendments pertaining to hazardous waste fuel and the land application prohibition were promulgated by EPA under the authority of the Hazardous and Solid Waste Amendments (HSWA) of 1984. The federal regulations for used oil burned for energy recovery were promulgated by EPA under the authority of the Used Oil Recycling Act of 1980 which were codified in RCRA.

These state rule amendments are proposed pursuant to the Agency's authority under Minn. Stat. § 116.07, subd. 4 (1988).

This Statement of Need and Reasonableness is divided into seven parts. Following this introduction, Part II contains the Agency's explanation of the need for the proposed amendments. Part III discusses the reasonableness of the proposed amendments. Part IV documents how the Agency has considered the methods of reducing the impact of the proposed amendments on small businesses as required by Minn. Stat. § 14.115 (1988). Part V documents the economic factors the Agency considered in drafting the amendments as required by Minn. Stat. § 116.07, subd. 6 (1988). Part VI sets forth the Agency's conclusion regarding the amendments. Part VII contains a list of exhibits relied on by the Agency to support the proposed amendments. The exhibits are available for

review at the Agency's offices at 520 Lafayette Road North, St. Paul, Minnesota 55155.

II. NEED FOR THE PROPOSED AMENDMENTS TO THE HAZARDOUS WASTE RULES

Minn. Stat. ch. 14 (1988) requires an agency to make an affirmative presentation of facts establishing the need for and reasonableness of the rules or amendments proposed. In general terms, this means that an agency must set forth the reasons for its proposal, and the reasons must not be arbitrary or capricious. However, to the extent that need and reasonableness are separate, need has come to mean that a problem exists which requires administrative attention and reasonableness means that the solution proposed by an agency is appropriate.

Need is a broad test that does not easily lend itself to evaluation of each proposed revision. In the broad sense, the need for amendments to the Agency's rules governing the management, treatment, storage, and disposal of hazardous waste has two bases: (A) the need for consistency with the federal hazardous waste regulations; and (B) the need for rules which provide protection of human health and the environment without unduly restricting normal commerce.

A. Need for Consistency with Federal Regulations.

In 1976, Congress adopted RCRA to regulate the management of hazardous waste. 42 U.S.C. section 6901, et seq. In adopting RCRA, Congress provided for eventual state control of the hazardous waste program and set up the mechanism for the EPA to grant authority to states to operate the program. In states that receive authorization, the state environmental agency administers the state program in lieu of the federal program. To receive and maintain authorization, the state program must be "equivalent" to the federal program and consistent with federal or state programs applicable to other states. EPA has defined equivalent to mean that the state requirements are at least as

stringent as federal requirements. In terms of consistency, EPA's goal is to achieve an integrated national program which requires that final state programs do not conflict with each other or with the federal program.

Minnesota received final authorization from EPA for its hazardous waste program pursuant to RCRA effective February 11, 1985. See 50 Fed. Reg. 3756 (January 28, 1985). A state with final authorization administers its hazardous waste program in lieu of the EPA program for those regulations which were promulgated pursuant to RCRA as adopted in 1976 and as amended in 1980.

Generally, federal regulations promulgated under RCRA are not in effect in Minnesota until the state rules are amended to incorporate the federal changes. Used oil burned for energy recovery, however, is regulated under the Used Oil Recycling Act. Section 3014(a) of the Act specifically provides that regulations promulgated thereunder are applicable to the states.

Used oil fuel is not presently regulated as a hazardous waste under § 3001 of RCRA. This is because the regulations have been promulgated pursuant to: (1) the Used Oil Recycling Act (§ 3014(a) of RCRA) which directed EPA to regulate recycled used oil even if it is not a hazardous waste; and (2) the Superfund Amendments and Reauthorization Act of 1986 (SARA § 205(j) adding RCRA § 3006(h)). SARA § 205(j) provides for delegation to states for used oil recycling standards even if used oil is not listed or identified as a hazardous waste.

The authorization Minnesota received on February 11, 1985, did not extend to those federal requirements promulgated by EPA pursuant to HSWA. Congress significantly amended RCRA in 1984 by establishing HSWA. One of the most significant aspects of this legislation is the fact that the specific mandates of HSWA become effective nationally upon promulgation of regulations by EPA. Thus, the federal amendments promulgated under HSWA are in effect in Minnesota.

and are enforced by EPA until Minnesota modifies its program to adopt the HSWA amendments. Once a state modifies its program to adopt HSWA amendments, the state must apply for and receive authorization specifically under HSWA in order to enforce the HSWA provisions in lieu of EPA as part of the authorized state program. The existing federal regulations establish specific time frames for the adoption of state rules intended to maintain equivalency to the federal rules. The federal regulations pertaining to hazardous waste burned for energy recovery and the land application prohibition on used oil for use as a dust suppressant and road treatment that Minnesota is incorporating into its hazardous waste rules in this rulemaking, were promulgated under the authority of HSWA.

Used oil collected in Minnesota is either burned for energy recovery in industrial furnaces such as asphalt plants or is transported out of the state to similar burning devices or to re-refineries. This means that hazardous waste generators and used oil generators, marketers and burners must be knowledgeable about requirements of both the state and federal hazardous waste programs. The need to comply with multiple sets of rules makes compliance difficult. Therefore, to the extent it can be accomplished without posing a threat to human health and the environment, amendment of Minnesota's hazardous waste rules to incorporate EPA's amendments is desirable.

B. Need for Rules Protective of Human Health and the Environment.

The proposed amendments to the Minnesota hazardous waste rules are needed for the protection of human health and the environment. As more scientific and technological information becomes available regarding the potential dangers of hazardous wastes and the alternatives available for reducing the risks of harm to the environment and humans, the Agency must use the information to establish

hazardous waste management requirements that adequately protect human health and the environment.

Congress directed the EPA to enact regulations on hazardous waste and used oil burned for energy recovery for two main reasons. The first reason is to prohibit burning hazardous waste and contaminated used oil in burning devices that do not have adequate air pollution control equipment. To accomplish this, the federal rules place restrictions on where off-specification used oil and hazardous waste fuels can be burned. Nonindustrial burning devices are prohibited by this rule from burning off-specification used oil or hazardous waste as fuels. The second reason is to track used oil and hazardous waste burned for energy recovery in order to assure proper management of these substances. This is implemented and enforced by placing administrative controls on marketers and burners of these fuels.

III. REASONABLENESS OF THE PROPOSED AMENDMENTS TO THE HAZARDOUS WASTE RULES

The Agency is required by Minn. Stat. ch. 14 (1988) to make an affirmative presentation of facts establishing the reasonableness of the proposed rules or amendments. The Agency proposes to incorporate federal requirements promulgated by EPA. A complete discussion of the reasonableness of the federal amendments is presented in Exhibits 1, 2, 3, and 4 listed in Part VII of this document, which are hereby incorporated by reference. The reasonableness of each proposed amendment to the state hazardous waste rules is discussed below.

A. Minn. Rules Pt. 7001.0520 Permit Requirements.

The existing hazardous waste rules in Minn. Rules pt. 7001.0520¹ (Permit Requirements) require a person who treats, stores or disposes of hazardous

1. Parts, subparts, items, etc. are underlined when they are first introduced as amendments or additions. The underlining is done to help the reader follow the discussion which corresponds to the specific rule amendments.

waste to obtain a permit. In order to be consistent with the federal regulations, the Agency is proposing to add to Minn. Rules pt. 7001.0520, subp. 3, entitled "Permits by rule," an item E which would follow the existing items A to D. Currently, items A to D list conditions operators of hazardous waste facilities must meet in order to operate without obtaining a hazardous waste facility permit. Item E would "permit by rule" the mixing of characteristic hazardous waste² and used oil only if the following conditions are met: (1) Generators who produce at least 1000 Kg/mo of hazardous waste comply with the accumulation requirements in Minn. Rules pt. 7045.0292, subp. 1; and (2) Generators who produce less than 1000 Kg/mo hazardous waste comply with the accumulation requirements of Minn. Rules pt. 7045.0219, subp. 4. Conditions (1) and (2) are subitems (1) and (2) in item E of the proposed rules, respectively.

Mixing characteristic hazardous waste with used oil to render the waste nonhazardous constitutes treatment. However, generators who choose to treat their own characteristic hazardous waste by mixing it with used oil within accumulation tanks or containers, and are in compliance with the applicable accumulation requirements of Minn. Rules pt. 7045.0292 and Minn. Rules pt. 7045.0219, do not need to obtain a permit. In this case, the generator is not actually operating a treatment facility and poses no greater threat to

2. Waste is designated as hazardous if it fits in one of two categories: A waste may be hazardous because it is a "characteristic" hazardous waste or it may be hazardous because it is a "listed" hazardous waste. A characteristic hazardous waste is a waste that, when evaluated, exhibits one or more of the hazardous characteristics specified in the hazardous waste rules. Listed wastes are specific wastes or categories of wastes that have been identified as consistently displaying hazardous characteristics or which have hazardous properties that are not readily assessed. Carcinogenicity is an example of a reason why a waste may listed as a hazardous waste. In many cases, the proposed rules distinguish between waste that is hazardous because it is listed and waste that is hazardous based on its characteristics.

human health and the environment than if he did the same activity within the authority of a treatment permit.

The same management standards apply to treatment in tanks that apply to storage in tanks, and the rules allow for limited on-site storage without a storage permit. Therefore, if generators comply with the accumulation requirements and if they render the characteristic hazardous waste nonhazardous on-site by mixing it with used oil, it is reasonable to allow this mixing to be conducted without a permit. These management standards are adequate to ensure the protection of human health and the environment under the short-term. To require generators to obtain a treatment permit would be unreasonably burdensome and would only impose administrative conditions that would not afford any additional protection.

B. Minn. Rules Pt. 7045.0020 Definitions.

The following discussion addresses the reasonableness of the proposed new and amended definitions of key words and phrases used in the hazardous waste rules. It is reasonable to include definitions in the proposed rules to provide a consistent interpretation of terms used by all parties. By defining potentially confusing terms, the Agency provides the regulated community with an understanding of what is expected of them in order to comply with the proposed rules. New terms to be added to Minn. Rules pt. 7045.0020 are "burner" (subpart 6c), "collector" (subpart 9a), "combustible liquid" (subpart 9b), "EPA Identification Number" (subpart 21a), "flammable liquid" (subpart 24b), "hazardous waste fuel" (subpart 34a), "incidental burner" (subpart 40a), "mixed municipal solid waste" (subpart 58a), "off-specification used oil" (subpart 59b), "on-specification used oil" (subpart 60a), and "used oil fuel" (subpart 100b). The terms to be amended are "boiler" (subpart 6a) and

"marketer" (subpart 55a). The reasonableness of each of the definitions is discussed below.

Minn. Rules pt. 7045.0020, subp. 6a currently provides a definition for the word "boiler." A boiler is defined as an enclosed device using controlled flame combustion that must also have the characteristics described in items A and B. In this rulemaking, the Agency is incorporating major requirements applicable to used oil and hazardous waste fuels that are to be burned for energy recovery. These new standards restrict the burning of these fuels to specific types of burning devices. Therefore, the Agency is amending the definition of a boiler to include the types of boilers that are specific to used oil and hazardous waste fuels. Items C and D are added to describe criteria specific to boilers that burn used oil fuel and hazardous waste fuel for energy recovery. It is reasonable to amend the term to clarify what types of burning devices can be used to burn used oil fuel and hazardous waste fuel. The amendment is equivalent to 40 CFR § 266.31 (b)(2)(i-ii).

Minn. Rules pt. 7045.0020, subp. 6c will add a definition for the word "burner." A burner is an owner or operator of an industrial furnace, industrial boiler, or utility boiler that meets the existing definition of an industrial furnace or the amended definition of boiler located in subpart 6a. It is reasonable to define the term burner so that the rules clearly define who can burn used oil and hazardous waste for energy recovery and the types of burning devices allowed. The amendment is equivalent to 40 CFR § 266.35.

Minn. Rules pt. 7045.0020, subp. 9a is added to define a "collector." A collector is defined as an initial transporter who receives used oil from generators and does not market the used oil directly to a person who burns it for energy recovery. No federal definition is provided for this term. A collector is different from a marketer, as defined in subpart 55a; therefore,

it is necessary to differentiate between the two by defining the terms. The proposed definition reasonably describes the activities of a used oil collector and differentiates between a used oil marketer and a used oil collector.

Minn. Rules pt. 7045.0020, subp. 9b is added to define a "combustible liquid." A combustible liquid is being defined as any liquid that has a flash point below 200 degrees Fahrenheit but equal to or greater than 100 degrees Fahrenheit. This is further defined in 49 CFR § 173.115 which provides more detail regarding the criteria of this term. It is reasonable to define the term because the rules distinguish between combustible and flammable liquids. The regulated community needs to know the difference between the two. The amendment is equivalent to 40 CFR § 266.43.

Minn. Rules pt. 7045.0020, subp. 21a is added to provide a definition for the term "EPA identification number." An EPA identification number is a number assigned by the EPA to each hazardous waste generator, transporter and treatment, storage and disposal facility. The number is owner and site specific. It is reasonable to define EPA identification number because it is used throughout the hazardous waste rules and is required for anyone who generates, transports, stores, treats or disposes of hazardous waste.

Minn. Rules pt. 7045.0020, subp. 24b is added to provide a definition for the term "flammable liquid." A flammable liquid is being defined as any liquid exhibiting a flash point below 100 degrees Fahrenheit. The rules reference 49 CFR § 173.115 which provides more detail regarding the criteria of this term. It is reasonable to define the term in the rules so that the regulated community knows the difference between flammable and combustible liquids.

Minn. Rules pt. 7045.0020, subp. 34a is added to define "hazardous waste fuel." Hazardous waste fuel is being defined as any hazardous waste that is burned for energy recovery and includes any fuel that is produced from

hazardous waste by processing, blending, or other treatment, except for those blended fuels as described in Minn. Rules pt. 7045.0102, subp. 3. The new amendments to the hazardous waste rules place additional administrative requirements on hazardous wastes that are being burned as fuels. These requirements are different from the requirements placed on hazardous wastes that are merely being destroyed by burning. Depending on what type of hazardous waste is blended with used oil, the language in Minn. Rules pt. 7045.0102, subp. 3 could also apply. It is necessary to differentiate between hazardous waste that is being destroyed and hazardous waste that is being burned for energy recovery. This amendment is equivalent to 40 CFR § 266.30(a).

Minn. Rules pt. 7045.0020, subp. 40a is added to provide a definition for "incidental burner." The definition for an incidental burner is a person who burns used oil fuel for purposes of processing other used oil, or treating other used oil to produce used oil fuel for marketing. These persons are considered to be incidentally burning used oil for further processing of other used oil. It is reasonable to include this definition because these incidental burners are not subject to the requirements for burners of used oil fuel. Therefore, it is necessary for the regulated community to understand the differences between an incidental burner and a burner (see subpart 6c). This amendment is equivalent to 40 CFR § 266.43.

Minn. Rules pt. 7045.0020, subp. 55b provides a definition of the word "marketer." It is being amended to clarify the definition. The existing definition of marketer is very similar to the amended version but is more limited in scope. The existing definition of a marketer is a person who, for the purpose of burning for energy recovery, processes, blends, or distributes waste oil, used oil, or hazardous waste. "Marketer" includes a generator who

processes, distributes, or blends such fuel and provides it directly to a person who burns it. The federal regulations published on November 29, 1985, expanded the definition of marketer. Hence, the current definition of marketer is being amended to remain consistent with the EPA's regulations by including more details in order to more clearly understand who is a marketer. The amended definition of a "marketer" is a generator who markets hazardous waste fuel or used oil fuel directly to a burner; a person who receives hazardous waste or used oil from generators and produces, processes, or blends hazardous waste fuel from these hazardous wastes, or blends used oil from these oils; a person who distributes but does not process or blend hazardous waste fuel or used oil; and a person who sends blended or processed used oils to brokers or other intermediaries. These fuels are further processed or sold to other marketers or burners. It is reasonable to expand the existing definition of a marketer in order to provide a clearer definition of who is classified as a marketer. Since marketers are key players in used oil fuel and hazardous waste fuel management, it is necessary to define who these persons are. The amendment is equivalent to 40 CFR § 266.34 and 266.43.

Minn. Rules pt. 7045.0020, subp. 58a is a new definition for "mixed municipal solid waste." This definition incorporates an existing statutory definition found in Minn. Stat. § 115A.03, subd. 21. Because this term is mentioned in the rule, it is reasonable to include its definition so that the regulated community understands what is included in this type of waste.

Minn. Rules pt. 7045.0020, subp. 59b is a new definition for "off-specification used oil." Off-specification used oil is defined as any used oil fuel that exceeds any of the established specification levels for arsenic, cadmium, chromium, lead, total halogens, or has a flash point less than 100 degrees Fahrenheit. Used oil that meets all of the specified levels

is not subject to the same regulations that are placed upon off-specification used oil. Therefore, it is reasonable to define this term in order for persons managing used oil to understand the differences between on-specification used oil and off-specification used oil. The amendment is equivalent to 40 CFR § 266.40(b).

Minn. Rules pt. 7045.0020, subp. 60a is a definition for the term "on-specification used oil." On-specification used oil is defined as used oil fuel that does not exceed the specification levels for the constituents in subpart 59b (off-specification used oil) and has a flash point equal to or greater than 100 degrees Fahrenheit. Less stringent marketer and burner requirements are imposed for the management of on-specification used oil than are imposed for the management of off-specification used oil fuel; therefore, it is reasonable to differentiate between the two terms.

Minn. Rules pt. 7045.0020, subp. 100b is a definition for the term "used oil fuel." Used oil fuel is defined as used oil that is burned for energy recovery. It includes any fuel produced from used oil by processing, blending, or other treatment, except as Minn. Rules pt. 7045.0102, subp. 3 describes. Again, depending on what is blended with used oil, the language in Minn. Rules pt. 7045.0102 clearly dictates how mixtures of used oil are regulated. Used oil fuel is an integral part of the used oil management system and, therefore, it is reasonable to define it so the regulated community understands what requirements are placed on used oil fuel. The amendment is equivalent to 40 CFR § 266.40 (b).

C. Minn. Rules Pt. 7045.0100 Classification of Certain Wastes; Scope.

Minn. Rules pt. 7045.0100 currently is an introductory rule that gives direction to where discussions of mixtures of hazardous and nonhazardous wastes and exempt wastes are located in the rules. The Agency is proposing to repeal

this entire part because this direction is provided in Minn. Rules pts. 7045.0102, (New title: Mixtures of wastes) and 7045.0120 (Exempt wastes) and is not necessary here. Therefore, it is reasonable to repeal this part.

D. Minn. Rules Pt. 7045.0102 Mixtures of Wastes.

The Agency is proposing to restructure Minn. Rules pt. 7045.0102 to accommodate the new provisions for hazardous waste and used oil burned for energy recovery. (See new Minn. Rules pts. 7045.0692 and 7045.0695). Thus, the existing title of "Mixtures of Hazardous and Nonhazardous wastes" is no longer appropriate and is being changed to "Mixtures of Waste." The rules then do not classify used oil as either hazardous or nonhazardous, which is consistent with federal regulations.

The first paragraph has been designated as a new subpart 1 and addresses the scope of this part. The existing language has been changed to reflect the proposed additions and revisions to this part. It is reasonable to reorganize Minn. Rules pt. 7045.0102 in order to provide new provisions specific to mixtures of used oil and hazardous waste. It is reasonable to make these changes so that the regulated community will understand how mixtures of these fuels are regulated.

The existing reference to "parts 7045.0125, subpart 10," in subpart 1 is being deleted from Minn. Rules pt. 7045.0102. This language was originally incorporated into the hazardous waste rules when the Agency incorporated the federal provisions of HSWA. The Agency believes at this time that it was inappropriate to reference this provision and is now correcting the original error. The existing Minn. Rules pt. 7045.0125, subp. 10 discusses hazardous waste which is beneficially used by burning. Mixtures of hazardous waste are not discussed in this subpart. Therefore, it is reasonable to delete this reference in Minn. Rules pt. 7045.0102.

Existing Items A to G are being placed into a new subpart 2, entitled "Mixtures of hazardous and nonhazardous wastes", and remain unchanged.

An entirely new subpart 3 is added to incorporate provisions specific to mixtures of used oil and hazardous waste. It is entitled "Mixtures of used oil and hazardous waste." Items A and B address used oil and hazardous waste that are intentionally mixed together. Item A of subpart 3 provides that used oil mixed with a hazardous waste exhibiting any of the characteristics of hazardous waste (e.g., ignitability, oxidativity, corrosivity, reactivity, toxicity, and extraction procedure (EP) toxicity) (Minn. Rules pt. 7045.0131, subp. 2 to 7) is regulated as hazardous waste. If the mixture is burned for energy recovery, it is regulated as a hazardous waste fuel under Minn. Rules pt. 7045.0692, provided the mixture continues to exhibit any of those characteristics. If the mixture no longer exhibits any of those characteristics and is burned for energy recovery, it is regulated as used oil fuel under Minn. Rules pt. 7045.0695. Mixtures that no longer exhibit any characteristic and are recycled in some other manner than burning for energy recovery, are not subject to the hazardous waste rules. For example, the oil may be recycled by sending it to a re-refinery to be processed into lubrication oil. Such oils are excluded from further regulation.

Intentionally mixed hazardous waste and used oil is regulated differently from used oil that is contaminated with a hazardous waste merely through its use (see discussion of Minn. Rules pt. 7045.0695). Item B of subpart 3 provides that used oil mixed with hazardous waste listed in Minn. Rules pt. 7045.0135 is a hazardous waste and, if it is to be burned for energy recovery, it is regulated as a hazardous waste fuel under Minn. Rules pt. 7045.0692. It is reasonable to regulate generators of intentionally mixed hazardous waste and oil more stringently because there is a much greater risk

of error or spills occurring during intentional mixing than during mixing which occurs through normal use. Placing the more stringent requirements applicable to hazardous waste fuel on a person mixing used oil and listed hazardous waste is reasonable since it ensures control over the management of these mixtures.

E. Minn. Rules Pt. 7045.0120 Exempt Wastes.

Minn. Rules pt. 7045.0120 identifies certain wastes that are exempt from regulation under the hazardous waste rules. Existing item M is being repealed and the substance of the item is recodified in Minn. Rules pt. 7045.0125. As a result of this change, existing items N, O, P and Q are being labeled as M, N, O and P, respectively.

F. Minn. Rules Pt. 7045.0125 Management of Waste by Use, Reuse, Recycling, and Reclamation.

Minn. Rules pt. 7045.0125 establishes specific requirements for the management of hazardous waste which is recycled or reused.

Minn. Rules pt. 7045.0125, subp. 1 states the purpose of Minn. Rules pt. 7045.0125 and lists specific items that are not regulated under the part. The Agency is proposing to add management requirements for used oil to this part and therefore is amending subpart 1 to reflect this. This part will regulate hazardous waste as well as used oil that is to be recycled. This is reasonable because used oil is not classified as a hazardous waste unless it is mixed with a listed hazardous waste or is improperly managed by not being recycled.

Minn. Rules pt. 7045.0125, subp. 1 is also being amended to indicate that the part does not apply to hazardous waste fuel being burned for energy recovery, or used oil fuel being burned for energy recovery. This is reasonable since each of these activities is addressed in a separate part setting forth specific requirements.

Minn. Rules pt. 7045.0125, subp. 3a is being added to establish management requirements for used oil. Item A establishes a provision for used oil that is recycled in some other manner than being burned for energy recovery. Used oil that is recycled in some other manner is not subject to the requirements of the hazardous waste rules. This is reasonable because used oil that is appropriately recycled does not pose the same threat to the environment and human health as oil that is merely disposed.

Minn. Rules pt. 7045.0125, subp. 3a, item B provides stringent requirements for used oil that is not recycled. This oil is regulated as a hazardous waste and is subject to the applicable requirements of Minn. Rules pts. 7045.0205 to 7045.0695 and 7045.1300 to 7045.1380. It is reasonable to apply these stringent requirements on used oil that is not reused or recycled because it not only helps promote proper recycling of used oil but also protects the ground water and soil from being contaminated.

Minn. Rules pt. 7045.0125, subp. 3a, item C specifies where used oil that is burned for energy recovery and where mixtures of used oil and hazardous waste are further regulated. It is reasonable to reference other locations in the rules where used oil is also regulated, as clarification for the reader.

Minn. Rules pt. 7045.0125, subp. 4 sets forth a list of hazardous wastes that are not subject to the generator, transporter and facility standards of chapter 7045. Because the Agency is adding two new parts (Minn. Rules pts. 7045.0692 and 7045.0695) the language in the first paragraph must be amended to reflect the addition. It is reasonable to make this amendment in order to be consistent with the intent of the original language.

Minn. Rules pt. 7045.0125, subp. 4, items D to J are added to exclude from regulation certain hazardous waste derived fuels produced from the normal petroleum refining, processing and transportation practices. These include

fuels produced from refining of indigenous, oil-bearing hazardous wastes at a petroleum refining facility. For these wastes to be exempt, they must be inserted into a part of the process designed to remove contaminants in the normal operation of the refining process or must meet certain specifications that have been established for processed used oil. The reasonableness for each exemption is discussed below.

Item D exempts fuels produced from the refining of oil-bearing hazardous wastes along with the normal process streams at a petroleum refining facility if the wastes result from normal petroleum refining, production, and transportation practices. This is reasonable if the waste is reintroduced back into the petroleum refinery at a point in the process where contaminants are removed through the normal operation of the refining process. The resulting fuel is no more contaminated than the fuels that are produced from refining crude oil. This is equivalent to the federal exemption located at 40 CFR § 261.6 (a)(3)(v).

Item E exempts oil that is reclaimed from hazardous wastes that are generated from normal petroleum refining, production, and transportation practices, that is to be refined along with normal process streams at a petroleum refining facility. The recovered oil is usually returned to the refining process as a substitute for crude oil but can also be burned directly as a fuel.

Reclaimed oil is exempted at this time because EPA believes that recovered oil needs to be studied further to determine the composition of the resulting oils in relation to the composition of virgin fuels, the particular means of oil recovery from these wastes, and the circumstances under which the oil might not be considered to be a waste. EPA will study this further and may issue additional regulations at a future date. It is reasonable to adopt a

position consistent with EPA pending its future determination regarding reclaimed oil. The proposed exemption is equivalent to the federal exemption located at 40 CFR § 261.6 (a)(3)(vi).

Item F exempts coke and coal tar from the iron and steel industry that contain EPA Hazardous Waste No. K087 listed under Minn. Rules pt. 7045.0135, subp. 3, item L, subitem (2) (decanter tank tar sludge from coking operations) from the iron and steel production process. Decanter tank tar sludge is generated during the recovery of a coal tar by-product produced during the production of coke from coal. The sludge is listed as hazardous waste because of high levels (approximately 1%) of phenol and naphthalene. The sludge is frequently recycled by mixing it with coal before it is charged to a coke oven to produce coke. The coke product is typically used as a fuel in steel blast furnaces. In addition, the sludge is sometimes mixed back into the coal tar by-product which is also frequently used as a fuel.

The sludge is mixed with coal before it is charged to the coke oven and the hazardous constituents in the sludge (phenol and naphthalene) are driven off during the coking process along with other volatile compounds formed by the thermal cracking of organic compounds in the coal. These volatile compounds are condensed to recover a coal tar by-product. The tar decanter sludge is produced during recovery of the coal tar and consists of coal tar and inert carbonaceous material carried over from the coking operation. Data indicate that phenol and naphthalene are not detectable in the coke where tar decanter sludge is recycled. (American Iron and Steel Institute and Koppers Company, Inc., November 29, 1985, Federal Register, page 49171.) Therefore, it is reasonable to exempt tar decanter sludge which is recycled in the coking process since phenol and naphthalene are not present at levels that would pose a

risk to human health and the environment. This is equivalent to the exemption located at 40 CFR § 261.6(a)(3)(vii).

Item G exempts hazardous waste fuel produced from oil-bearing hazardous wastes from petroleum refining, production, or transportation practices, or produced from oil reclaimed from the hazardous wastes, where the hazardous wastes are reintroduced into a process that does not use distillation or does not produce products from crude oil, if the resulting fuel meets the used oil specifications under Minn. Rules pt. 7045.0695, subp. 1, item B, subitem (1), and no other hazardous wastes are used to produce the hazardous waste fuel. As stated in the explanation for item D, in order for fuels produced from the refining of oil-bearing hazardous wastes to be exempt they must be inserted back into the refining process where contaminants are removed in the normal process streams. This normally would be prior to the distillation and cracking processes.

This exemption describes fuel that is produced from hazardous wastes that are not reintroduced into a process that removes contaminants in the normal process streams of the refining process and also takes into account fuels that are not produced from crude oil. In order for these fuels to remain exempt, no additional hazardous wastes can be introduced into the process that produces hazardous waste fuels and such fuels must meet the same specifications as the ones applied to fuels produced from processing used oil, a very similar operation. The specifications are intended to provide protection under virtually all burning circumstances. Specifications have been determined for the constituents arsenic, cadmium, chromium, and lead; and a flash point and a level for total halogens has been established. This exemption is reasonable since it will insure that resulting fuels will pose no greater environmental

hazards than virgin fuels. This is equivalent to the exemption located at 40 CFR § 261.6 (a)(3)(viii)(A).

Item H exempts hazardous waste fuel produced from oil-bearing hazardous waste from petroleum refining, production, and transportation practices, where the hazardous wastes are reintroduced into a refining process after a point at which contaminants are removed, if the fuel meets the used oil fuel specifications under Minn. Rules pt. 7045.0695, subp. 1, item B, subitem (1). This exemption is reasonable for the same reasons stated under item G. This is equivalent to the exemption located at 40 CFR § 261.6 (a)(3)(viii)(B).

Item I exempts oil that is reclaimed from oil-bearing hazardous wastes from petroleum refining, production, and transportation practices, and is burned as a fuel without reintroduction to a refining process, if the reclaimed oil meets the used oil fuel specifications under Minn. Rules pt. 7045.0695, subp. 1, item B, subitem (1). This exemption is reasonable if the fuel meets the used oil fuel specifications because the fuel will pose no greater threat to human health and the environment than if virgin oil is burned in its place. This is equivalent to the exemption located at 40 CFR § 261.6(a)(3)(viii)(C).

Item J exempts petroleum coke produced from petroleum refinery hazardous wastes containing oil at the same facility at which the wastes were generated, unless the resulting coke product exhibits one or more of the characteristics of hazardous waste in Minn. Rules pt. 7045.0131. If the end coke product exhibits a hazardous characteristic, it is considered to be a hazardous waste and must be managed in compliance with the hazardous waste rules. The rule is reasonable because it requires that a product with the same potential for harm as a characteristic hazardous waste be managed so as to prevent any harm. This is equivalent to the exemption located at 40 CFR § 261.6(a)(3)(ix).

Minn. Rules pt. 7045.0125, subp. 5 is being amended to correct two technical errors. Item A currently states that "wastes that are utilized in a manner specified in subitems 1 to 3, are not subject to regulation under parts 7045.0205 to 7045.0685." This reference was intended to provide an exclusion from all of the requirements of the hazardous waste rules that followed Minn. Rules pt. 7045.0205. However, in 1988 the hazardous waste rules were amended to incorporate federal land disposal restrictions. These amendments added new rules to chapter 7045. Whereas chapter 7045 previously covered Minn. Rules pts. 7045.0020 to 7045.0685, the land disposal restriction amendments extended chapter 7045 to include Minn. Rules pts. 7045.1300 to 7045.1380. At the time of the land disposal restriction amendments, the Agency failed to make the necessary correction to this reference in Minn. Rules pt. 7045.0125 and is at this time changing this part to accurately reflect the current extent of chapter 7045.

Second, subpart 5 is unclear in the way it refers to rule titles and parts. Subpart 5 currently states that it "does not apply to wastes being accumulated speculatively as defined in Minn. Rules pt. 7045.0020, or being managed by use constituting disposal, or burning for energy recovery as regulated under part 7045.0665, or subpart 10." Subpart 5 is being amended to clarify that the reference to Minn. Rules pt. 7045.0665, which regulates use constituting disposal, is separate from a reference to subpart 10, which previously regulated burning for energy recovery and which is being renumbered in this rulemaking. Minn. Rules pt. 7045.0665 will be moved to correspond to the provision it addresses, use constituting disposal. Similarly, Minn. Rules pt. 7045.0125, subp. 6 also references Minn. Rules pt. 7045.0125, subp. 10, beneficial use by burning. Minn. Rules pt. 7045.0125, subp. 10 is being

assimilated into the new Minn. Rules pt. 7045.0692 and therefore amending the reference to the new location of the provisions is reasonable.

Minn. Rules pt. 7045.0125, subp. 7 provides that unless the activities of generators of hazardous waste destined for recycling fall within the provisions of Minn. Rules pts. 7045.0125, subps. 4, 5, 6, or 10, they are subject to all generator requirements of Minn. Rules pts. 7045.0205 to 7045.0304. A reference to the new subpart 3a is being added to Minn. Rules pt. 7045.0125, subp. 7. The new Minn. Rules pt. 7045.0125, subp. 3a establishes management requirements for used oil and is appropriately placed in this subpart to reflect further requirements for recycling under this provision. This is reasonable because the requirements of subpart 3a are very specific for used oil management. If a generator complies with the requirements set forth in subpart 3a, it is not necessary to comply with the additional requirements of Minn. Rules pts. 7045.0205 to 7045.0304.

A reference to the new Minn. Rules pt. 7045.0695 is also being added to subpart 7. Minn. Rules pt. 7045.0695 discusses requirements for persons who generate, market, or burn used oil as a fuel. Used oil generators who meet the provisions of the used oil fuel requirements located in Minn. Rules pt. 7045.0695, do not need to comply with the requirements of Minn. Rules pts. 7045.0205 to 7045.0304. This is reasonable for the same reasons discussed above in regard to used oil management in Minn. Rules pt. 7045.0125, subp. 3a.

Minn. Rules pt. 7045.0125, subp. 8 provides that unless the activities of transporters of hazardous waste destined for recycling fall within the provisions of Minn. Rules pt. 7045.0125, subps. 4, 5, 6, or 10, they are subject to all requirements for hazardous waste transporters. Subpart 3a and Minn. Rules pt. 7045.0695 are being added to the existing language for the same reasons as described in the discussion of Minn. Rules pt. 7045.0125, subp. 7.

The references to Minn. Rules pt. 7045.0125, subp. 10 located in subparts 7 and 8 are being deleted from those subparts because the existing subpart 10 does not discuss additional generator (subpart 7) or transporter (subpart 8) activities. It is reasonable to delete existing references to subpart 10 because the provisions do not apply to subparts 7 and 8.

Minn. Rules pt. 7045.0125, subp. 9 sets forth the requirements for owners or operators of facilities that recycle hazardous waste when the waste does not meet the criteria of subparts 4, 5, 6, or 10 of Minn. Rules pt. 7045.0125. Subpart 3a is being added to the existing language and Minn. Rules pt. 7045.0695 is being added for the same reasons as described in the discussion of Minn. Rules pt. 7045.0125, subp. 7.

Minn. Rules pt. 7045.0125, subp. 10 is being repealed. The existing requirements in subp. 10 are being assimilated into Minn. Rules pt. 7045.0692. The existing subpart 10 provides requirements for beneficial use of a hazardous waste by burning. Items A, B, and C, subitem (1) of subpart 10 are being relocated to Minn. Rules pt. 7045.0692, but items C, subitem (2) and D of subpart 10 are superseded by the federal requirements and will not be included in Minn. Rules pt. 7045.0692. Minn. Rules pt. 7045.0692 has been created because of the extensive regulations that are being imposed in this rulemaking. All existing references to Minn. Rules pt. 7045.0125, subp. 10 in subps. 5, 6, and 9 are therefore reasonably changed to reference Minn. Rules pt. 7045.0692.

Discussion of the changes to Minn. Rules pt. 7045.0125, subp. 10, items A, B, and C is provided as part of the discussion of Minn. Rules pt. 7045.0692.

Minn. Rules pt. 7045.0125, subp. 11 is being repealed. The existing subpart 11 provides certain exceptions from the labeling requirements for fuels produced from hazardous wastes indigenous to refining operations. The labeling requirements have been superseded by the November 29, 1985, federal hazardous

waste fuel requirements. The effect of the supersedure is that the exemption no longer applies. It is reasonable, therefore, to repeal the exception.

G. Minn. Rules Pt. 7045.0214 Evaluation of Wastes.

Minn. Rules pt. 7045.0214, subp. 3, item C is being amended to reflect the incorporation of the existing Minn. Rules pt. 7045.0125, subp. 10 into Minn. Rules pt. 7045.0692. This is reasonable since subpart 10 is being repealed and the existing requirements of subpart 10 are now located in Minn. Rules pt. 7045.0692.

Minn. Rules pt. 7045.0214, subp. 3 discusses wastes generated by treatment, storage, or disposal. The existing item A provides an exception for the wastes identified in items B and C. The new item D states "wastes from burning any of the materials exempted from regulation by part 7045.0125, subpart 4, items D to J, are not hazardous wastes." The reasonableness of these exclusions are discussed in this document at Minn. Rules pt. 7045.0125, subp. 4, items D to J. It is reasonable to provide a reference to these excluded wastes at this point in the rules to identify the fact that they are also not subject to the requirement to evaluate for hazardousness.

H. Minn. Rules Pt. 7045.0219 Special Requirements for Small Quantity Generators of Hazardous Waste.

Minn. Rules pt. 7045.0219, subp. 1 is being amended to include the female gender as being a generator. This is reasonable because Minnesota's rulemaking convention, as implemented by the Revisor of Statutes, requires that rules be neutral as to gender.

Minn. Rules pt. 7045.0219, subp. 4 is being amended by deleting the words "set forth." This phrase is redundant in the context that it is used. The meaning of the sentence is not affected by deleting this phrase and therefore the change is reasonable.

Minn. Rules pt. 7045.0219, subp. 4 provides on-site accumulation requirements for small quantity generators of hazardous waste. Item A lists provisions for two groups of small quantity generators that apply to waste not listed as acute hazardous waste. Subitem (1) describes provisions for small quantity generators who in a calendar month generate at least 100 kilograms of waste and subitem (2) describes requirements for small quantity generators who in a calendar month generate less than 100 kilograms of waste.

Minn. Rules pt. 7045.0219, subp. 4, item A, subitem (1) is amended by adding an additional requirement to the existing language. The added provision states, "If the small quantity generators regulated under this subitem mix used oil with hazardous waste, they must meet the requirements under part 7045.0102, subpart 3." As amended in Minn. Rules pt. 7045.0102, subp. 3 establishes requirements applicable to persons who mix used oil and hazardous waste. Subitem (2) is amended by adding references to the rules applicable to these generators who also mix used oil and hazardous waste together. It is reasonable to provide reference to the rules where mixtures of used oil and hazardous waste are further regulated to clarify the regulations applicable to generators who mix used oil and hazardous waste.

Minn. Rules pt. 7045.0219, subp. 5 establishes management requirements for small quantity generators. Item A lists the specific parts of chapter 7045 with which a small quantity generator must comply. Item A is amended to include the applicable parts of Minn. Rules pts. 7045.0692 and 7045.0695 in a new subitem (8). Minn. Rules pt. 7045.0692 contains the new hazardous waste fuel requirements and Minn. Rules pt. 7045.0695 contains the new used oil fuel requirements. It is reasonable to include in item A a reference to the new additional requirements set forth in this rulemaking.

Minn. Rules pt. 7045.0219, subp. 6 currently sets forth requirements for small quantity generators who mix hazardous waste with nonhazardous waste. The existing subpart 6 is being amended to incorporate additional requirements for mixing hazardous waste with used oil. A new item A incorporates most of the existing language and discusses mixing hazardous waste with nonhazardous waste. A new item B provides requirements for mixing ignitable hazardous waste with used oil, and a new item C refers small quantity generators to another part of chapter 7045 for further regulation for mixtures that do not fall under the criteria set forth in item B.

The existing language in subpart 6 is being modified to accommodate the addition of items A, B and C. The existing language referring to mixing nonhazardous waste with hazardous waste is being incorporated into a new item A. The restructured language in item A is amended to designate that "hazardous waste" may be mixed with nonhazardous waste and be subject to the reduced requirements of this rule. The statement is made clearer with the addition of the words "hazardous waste" and is therefore reasonably amended. The new item A also states, "Hazardous waste may be mixed with nonhazardous waste pursuant to Minn. Rules pt. 7045.0102 and remain subject to these reduced requirements even though the resultant mixture exceeds the quantity limitations identified." The existing statement merely states, "quantity limitations" and does not specify what kind of limitations are being referred to. This is unclear. Therefore, the existing language is amended by specifying the type of limitations as being generation and accumulation limitations. With this addition, there is no longer a need to interpret what type of "quantity limitations" were meant by the existing language and it is therefore reasonable to amend the rule.

Minn. Rules 7045.0219, subp. 6, item B is being added to subpart 6. This new item sets forth criteria that must be met in order for waste that is hazardous solely for the characteristic of ignitability to be mixed with used oil and still have the mixture be regulated under the less stringent requirements of the used oil fuel requirements. Hazardous waste that is mixed with used oil can only exhibit the characteristic of ignitability and must meet the following conditions: (1) the waste must be generated by a small quantity generator who in a calendar month generates a total of less than 100 kilograms of hazardous waste; (2) the ignitable waste must have a flash point of 100 degrees Fahrenheit or greater, must not be a metal bearing paint waste or gasoline; and (3) the concentration of ignitable waste in the used oil must not exceed ten percent by volume.

The characteristic hazardous wastes identified in Minn. Rules ch. 7045 are ignitability, corrosivity, reactivity, oxidativity, Extraction Procedure (EP) toxicity, and toxicity. The provision in subpart 6, item B limits the type of characteristic hazardous waste allowed to be mixed, to waste exhibiting the characteristic of ignitability. Hazardous wastes that exhibit the characteristic of ignitability are wastes that have the ability and readiness to burn under certain conditions. These wastes have flash points less than 60 degrees Celsius (140 degrees Fahrenheit) and can be used as a substitute for other more common fuels, such as natural gas or fuel oil, because they aid the combustion process in burning devices. The most common disposal method for ignitable hazardous waste is disposal by burning at acceptable waste management facilities. It is reasonable to limit the type of waste allowed to be mixed with used oil fuel to ignitable-only hazardous waste because if it is used as a fuel supplement, it is an acceptable method of "recycling." When limited in quantity, the burning of ignitable-only hazardous wastes pose no greater risk

to persons and the environment than would the burning of other virgin fuels. Hazardous wastes displaying other hazardous characteristics are treated differently for disposal than ignitable hazardous waste. For example, a waste that exhibits the characteristic of corrosivity could not be reasonably treated by burning and should instead be treated by neutralization.

It is necessary to place certain controls on the management of mixing ignitable hazardous waste with used oil. By placing the provisions of subpart 6, item B, subitems (1), (2), and (3) on generators of used oil and ignitable hazardous waste, the people who pick up the used oil and market and burn it will be assured that the used oil they handle does not exhibit a characteristic of ignitability. The reasoning for each subitem is discussed below.

Minn. Rules pt. 7045.0219, subp. 6, item B, subitem (1), states, "the ignitable waste is generated by a small quantity generator who in a calendar month generates less than 100 kilograms of hazardous waste." Persons who generate less than 100 kilograms (approximately one half of a 55 gallon drum) per month of ignitable hazardous waste and used oil at the same location are being allowed to mix used oil and ignitable hazardous waste. These are the generators who are conditionally exempted under the federal regulations. They can mix any quantity of hazardous waste with used oil and the mixture is regulated as a used oil fuel. The existing state rules are more stringent by regulating this size of generator, but allow mixing to occur if specific criteria are met for these very small generators. Allowing this provision in subitem (1) is reasonable because the quantity of waste that is generated is so small that many times generators have difficulty obtaining the services of hazardous waste transporters, and if they do, the cost is prohibitively expensive. The difficulty of managing such small quantities encourages improper disposal of ignitable hazardous waste by such means as dumping it on

the ground, down the sewer or mixing it with used oil in unsafe quantities. The addition of unsafe quantities could lower the flash point of a quantity of used oil causing the mixture to be unsafe if not properly managed. This could cause a very "explosive" situation. Allowing generators who generate less than 100 kilograms per month to mix ignitable hazardous waste with used oil is reasonable since: (1) the waste generated is a very small quantity; (2) the mixture is ultimately burned for energy recovery, which is an acceptable recycling method; (3) if the waste meets the additional criteria of subitems (2) and (3), the waste poses no additional hazards that may be of concern when burned; (4) this is an economically feasible method of disposal for this size of generator; and (5) it attempts to eliminate improper disposal of ignitable wastes.

Minn. Rules pt. 7045.0219, subp. 6, item B, subitem (2) provides the second condition for small quantity generators who mix ignitable hazardous waste with used oil. It states that ignitable waste shall not be a metal bearing paint waste, or gasoline, and it must have a flash point of 100 degrees Fahrenheit or greater.

Some paints contain heavy metals such as chromium, cadmium, mercury and lead as ingredients. Solvents are frequently used to clean equipment and the surrounding areas where this type of paint has been used, which then causes the solvent waste to be contaminated with heavy metals. Certain heavy metals are known to cause harm to human health and the environment and, depending on the concentration of contaminant, are considered to exhibit the characteristic of Extraction Procedure (EP) Toxicity. Used oil that has been deliberately mixed with heavy metals and as a result exhibits the characteristic of Extraction Procedure Toxicity, is classified as a hazardous waste. Heavy metals are not destroyed by the burning process. They are only transferred to a different

media, either as air emissions or contaminants in the ash. Therefore, it is reasonable to limit the type of ignitable hazardous waste that can be mixed with used oil to that waste which does not exhibit the characteristic of Extraction Procedure Toxicity.

Subitem (2) also excludes gasoline from being added to used oil. Gasoline is an extremely ignitable hazardous substance (less than 100 degrees Fahrenheit) and if not handled properly can be extremely hazardous. Ignitable hazardous waste is waste that has a flash point less than 140 degrees Fahrenheit. Small quantity generators can only mix ignitable hazardous waste that has a flash point of 100 degrees Fahrenheit or greater. The most common ignitable solvents that are used by small quantity generators who also generate used oil are mineral spirits and stoddard solvents. These are typically used in parts washers to clean parts of engines. The majority of these solvents have a flash point greater than 100 degrees Fahrenheit. There is a concern that mixing wastes with lower flash points could result in a high risk of ignition. However, the management of ignitable-only hazardous waste would not pose any greater danger of fires or explosions than the handling of commercial fuel oils if the minimum flash point were limited to 100 degrees Fahrenheit. It is, therefore, reasonable to limit the flash point of ignitable hazardous waste to 100 degrees Fahrenheit or greater.

Minn. Rules pt. 7045.0219, subp. 6, item B, subitem (3) limits the amount of ignitable hazardous waste that can be mixed with used oil. The entire mixture of used oil/ignitable hazardous waste cannot contain greater than ten percent ignitable hazardous waste.

The Agency has collected a limited amount of data on mixtures of used oil and stoddard solvent that ignites at 100-105 degrees Fahrenheit (exhibit 5). The data indicate that used oil mixed with 32% ignitable solvent exhibits a

flash point of 140 degrees Fahrenheit. A mixture of 20% ignitable stoddard solvent and used oil exhibits a flash point of 165 degrees Fahrenheit. A mixture of 10% ignitable stoddard solvent and used oil exhibits a flash point of 260 degrees Fahrenheit. Because of the limited data available, the Agency has taken a very conservative approach by allowing 10% ignitable hazardous waste to be mixed with used oil. As stated above, the flash point of a mixture of 10% ignitable stoddard solvent and used oil is well above the level of 140 degrees Fahrenheit, the level at which a waste becomes characteristically ignitable. If a generator meets all of the conditions in item B, the generator is not required to conduct an analysis of the mixture to prove that the mixture does not exhibit the characteristic of ignitability. A mixture that actually does exhibit the characteristic of ignitability is a hazardous waste and must be managed as a hazardous waste or as a hazardous waste fuel.

The Agency believes that allowing mixtures of up to 10% ignitable hazardous waste is a fair alternative to an outright prohibition of mixing for this category of generators. The Agency also knows that used oil can be mixed with stoddard solvent in larger amounts and not exhibit the characteristic of ignitability and this is why item C is being added to subpart 6. Item B exists in the rule merely to allow the mixing of certain wastes without requiring testing of the mixture to prove that it does not exhibit the characteristic of ignitability. The provision in subitem (3) is based on the most current available information, and the Agency believes this is a reasonable management approach for persons who generate less than 100 kilograms of hazardous waste.

Minn. Rules pt. 7045.0219, subp. 6, item C is added to subp. 6. Item C refers small quantity generators to Minn. Rules pt. 7045.0102, subp. 3 if the criteria in Minn. Rules pt. 7045.0219, subp. 6, item B is not met. Minn. Rules pt. 7045.0102, subp. 3 regulates mixing used oil and hazardous waste. Mixtures

of used oil and hazardous waste that do not meet the criteria in item B may or may not be hazardous, and since Minn. Rules pt. 7045.0102, subp. 3 regulates mixing used oil and hazardous waste, subpart 6 is therefore reasonably amended.

I. Minn. Rules Pt. 7045.0665 Use Constituting Disposal.

Minn. Rules pt. 7045.0665 applies to hazardous wastes that are used in a manner constituting disposal. This applies to the application or placement of recyclable wastes in or on the land. Subpart 1a is being added to address the application of used oil, waste oil, hazardous waste, and mixtures of hazardous waste in or on the land, for use as a dust suppressant or for use as a road treatment. Item A states that waste oil, used oil, hazardous waste, and mixtures of hazardous waste and other material, waste oil, or used oil may not be placed in mixed municipal solid waste or applied as a dust suppressant or used for road treatment. Item B states that a person may not otherwise place used oil in or on the land, unless approved by the Commissioner (of the Agency). It also states that the application of used oil in or on the land shall only be approved in the case of an accidental oil spill.

On July 15, 1985, the EPA published regulations in response to the HSWA. A provision in this federal regulation prohibits used oil, waste oil or other material mixed with hazardous waste from being used as a dust suppressant or for road treatment. Subpart 1a incorporates this federal provision along with a state statutory provision (Minn. Stat. § 115A.916) which bans used oil from being placed in mixed municipal solid waste or from being applied in or on the land, unless approved by the Agency. The statute was adopted in 1988 to protect the environment and human health from the harmful components of used oil, and to help encourage the recycling of this valuable resource.

Applying used oil, waste oil, or other material contaminated with hazardous waste for use as a dust suppressant or used for road treatment is an

inappropriate use and disposal method for hazardous waste mixed with oil. It is therefore reasonable to prohibit this activity in order to promote proper disposal or recycling, such as burning the mixture for energy recovery.

The statute states that a person may not otherwise place used oil in or on the land, unless approved by the Commissioner. The new subpart is more specific than the statute by limiting the approval of the application of used oil in or on the land only in the case of an accidental oil spill. Used oil that has been spilled will typically, as a part of a cleanup action, be excavated and thin spread on the ground, thus allowing the oil to decompose much faster than if it is left in place. Improperly managed used oil can contribute to ground water and soil contamination. Therefore, it is reasonable to limit the land application of used oil only to those situations where an accidental spill has occurred. This action will help promote the proper management of used oil and will discourage it from being improperly applied to the land.

Since the new subpart 1a incorporates the federal requirement prohibiting the mixing of hazardous waste with used oil, waste oil, or other material, it is appropriate to also incorporate the state statute that bans used oil from being placed in or on the land in order to include in one location all language referring to improper disposal of used oil.

J. Minn. Rules Pt. 7045.0692 Hazardous Waste Burned for Energy Recovery.

Minn. Rules pt. 7045.0692 and Minn. Rules pt. 7045.0695 set forth requirements for persons who market or burn hazardous waste burned for energy recovery and used oil burned for energy recovery. Burning for energy recovery is different from burning for destruction and it is important to distinguish between the two. Burning for legitimate energy recovery exists when fuels have a BTU level greater than wood (5,000-8,000 Btu/lb). Burning low energy

hazardous waste as alleged fuel is not considered to be burning for legitimate energy recovery, even if the low energy hazardous waste is blended with high energy hazardous materials and then burned. Thus, boilers and furnaces burning low energy waste (i.e., having less than 5,000-8,000 Btu/lb heating value, as generated) could be considered to be incinerating, and would be subject to the requirements for hazardous waste incinerators, which are more stringent than the requirements set forth in the new Minn. Rules pts. 7045.0692 and 7045.0695 for boilers and furnaces.

Minn. Rules pt. 7045.0692 is being added to incorporate the federal requirements addressing hazardous waste burned for energy recovery. Portions of this new part contain existing provisions that have been extracted from Minn. Rules pt. 7045.0125, subp. 10. The existing Minn. Rules pt. 7045.0125, subp. 10 discusses hazardous waste which is beneficially used by burning. Since the new part discusses hazardous waste burned for energy recovery, it is appropriate to incorporate the existing provisions on burning for energy recovery into the new part.

Minn. Rules pt. 7045.0692, subp. 1 discusses the scope of the new part. It applies to hazardous waste that is burned for energy recovery in boilers or industrial furnaces that are not regulated by the thermal treatment standards in Minn. Rules pts. 7045.0542 or 7045.0640. This is reasonable because Minn. Rules pts. 7045.0542 and 7045.0640 regulate boilers and furnaces that are burning hazardous waste in order to destroy the waste. Hazardous waste which is being destroyed is subject to the stricter thermal treatment standards than is waste that is being recycled (burned for energy recovery). This is equivalent to 40 CFR § 266.30 (a).

Minn. Rules pt. 7045.0692, subp. 1, items A to E are exceptions to Minn. Rules pt. 7045.0692. Item A exempts gaseous emissions recovered from hazardous

waste management activities when the gas is burned for energy recovery. This applies to gas recovered from landfills that is ultimately burned for energy recovery in boilers or industrial furnaces. This is equivalent to 40 CFR § 266.30(a).

Minn. Rules pt. 7045.0692, subp. 1, item B exempts used oil that exhibits a characteristic of hazardous waste as identified in Minn. Rules pt. 7045.0131, provided that it has not been intentionally mixed with a characteristic hazardous waste. Used oil itself might be a hazardous waste if it exhibits a characteristic of hazardous waste. The most likely characteristic is ignitability. However, EPA intended that recycled used oil that is a hazardous waste solely because it exhibits a characteristic of hazardous waste be regulated as used oil fuel provided that it is not mixed with a hazardous waste. This is reasonable since used oil may be contaminated with characteristic hazardous waste as a result of its use and, if it is properly recycled, it need not be treated as a hazardous waste. An example of used oil that is contaminated through its use is the gasoline engine. A low flash point in the oil drained from a car may be attributable to benzene, toluene, or xylene that is added to crankcase oil as a result of engine blow-by (these are constituents of gasoline) rather than from a spent solvent. These new regulations are intended to discourage intentionally mixing hazardous waste with used oil. The benefit of handling unadulterated used oil is very clear. Used oil is not subject to the same strict requirements as hazardous waste, thus, it can be more readily marketed and managed. It is also more environmentally safe to handle unadulterated used oil versus hazardous waste mixed with used oil that is managed as used oil. This is equivalent to 40 CFR § 266.30(b)(1).

Minn. Rules pt. 7045.0692, subp. 1, item C exempts certain hazardous waste from Minn. Rules pt. 7045.0692. Specifically, it exempts Minn. Rules pts. 7045.0125, subp. 3a and subp. 4, items D to J from regulation. Minn. Rules pt. 7045.0125, subp. 3a lists management requirements for used oil. Subpart 3a, item A states, "used oil that is recycled in some other manner than burning for energy recovery is not subject to the requirements of parts 7045.0205 to 7045.0695 and 7045.1300 to 7045.1380." Minn. Rules pt. 7045.0125, subp. 4, items D to J list waste derived fuels that are also exempt from Minn. Rules pts. 7045.0205 to 7045.0695. The reasoning for these exemptions is discussed above in Minn. Rules pt. 7045.0125, subp. 4. It is also reasonable to provide a cross reference in this part in order to alert the regulated community to which wastes are not covered by Minn. Rules pt. 7045.0692. This is equivalent to 40 CFR § 266.30(b)(2).

Item D exempts mixtures of used oil and waste that is hazardous solely for the characteristic of ignitability as identified in Minn. Rules pt. 7045.0131, subp. 2, provided the waste is generated by a person who in a calendar month generates less than 100 kilograms of hazardous waste. This type of mixture is regulated under Minn. Rules pt. 7045.0219, subp. 6, and the exemption is reasonable for the same reasons as discussed in that part. Item D continues by referring persons who generate at least 100 kilograms of hazardous waste and who also mix used oil and hazardous waste to the provisions under Minn. Rules pt. 7045.0102, subp. 3, item A. It is reasonable to refer to the location in the hazardous waste rules where mixtures of used oil and hazardous waste are further regulated for this size generator.

Minn. Rules pt. 7045.0692, subp. 1, item E exempts used oil being burned for energy recovery from Minn. Rules pt. 7045.0692. Used oil burned for energy recovery is regulated in Minn. Rules pt. 7045.0695. Used oil that is

intentionally mixed with a hazardous waste is regulated as a hazardous waste fuel if it is burned for energy recovery. Depending on the situation, used oil and hazardous wastes that are used as fuels are either regulated under Minn. Rules pt. 7045.0692 or Minn. Rules pt. 7045.0695. It is, therefore, appropriate to include a reference to Minn. Rules pt. 7045.0695 in order to call attention to the additional requirements for used oil fuel. This is equivalent to 40 CFR § 266.30(b)(2).

Minn. Rules pt. 7045.0692, subp. 2 lists prohibitions for marketers and burners of hazardous waste fuel. Item A, subitem (1) states that a person may market hazardous waste fuel only to a person who has notified the EPA of his hazardous waste fuel activities and who has an EPA identification number. Item A also states that if the fuel is to be burned, it can only be marketed to persons who burn the fuel in boilers and industrial furnaces identified in item B of this subpart. Notification to EPA of waste activities is necessary because EPA must be able to identify those persons engaged in waste-as-fuel activities in order to ensure that these waste fuels are managed properly and not routed to nonindustrial markets. The special waste-as-fuel notification is mandated under RCRA § 3010(a), as amended. An EPA identification number will be assigned to those facilities subject to RCRA regulation for the first time. Hence, this prohibition exists to ensure proper management of hazardous waste fuels and is reasonably added to this part. This is equivalent to 40 CFR § 266.31(a).

Item A, subitem (2) prohibits burning hazardous waste and off-specification used oil fuel in nonindustrial boilers (e.g., boilers located in apartment and office buildings, schools, hospitals) and only allows burning of such fuels in industrial boilers, utility boilers, and industrial furnaces. This prohibition is directed at nonindustrial boilers because burning hazardous waste fuels in

these types of boilers poses the most significant and immediate health risks. Nonindustrial boilers are typically very small and may not achieve complete combustion of toxic organics because of inadequate controls to maintain optimum combustion conditions when firing fuels the boiler is not designed to burn. Further, virtually no nonindustrial boilers are equipped with metals emissions control equipment. The risks from emissions of incompletely burned toxic organic compounds and toxic metals from nonindustrial boilers is compounded because these boilers are typically located in urban areas where sources are frequently clustered closely together. Thus, emission plumes from numerous sources can overlap and increase ambient concentrations of toxic compounds. Further, individuals can be exposed to high ambient levels of emitted toxicants because the individuals can be located close to the sources of toxicants and exposed to the even higher toxicant levels above-ground, for instance, in an apartment building on the third floor. Hence, this prohibition for burning hazardous waste fuel in nonindustrial combustion devices is reasonably added to Minn. Rules pt. 7045.0692 by identifying which boilers and furnaces can burn hazardous waste fuels in item B of this subpart.

The major purpose of these new regulations is to prohibit burning hazardous waste fuel and used oil fuel in nonindustrial combustion devices. It is less confusing to identify boilers and furnaces that are not subject to the prohibitions than to define nonindustrial boilers subject to the prohibitions. Therefore, item B sets out the devices that are allowed to burn these types of fuels. This is equivalent to 40 CFR § 266.30(a)(2).

Item B of subpart 2 states that hazardous waste fuel may be burned for energy recovery only in industrial furnaces that meet the definition in Minn. Rules pt. 7045.0020, subp. 43a, in boilers as defined in the amended Minn. Rules pt. 7045.0020, subp. 6a, or as provided in Minn. Rules pt. 7045.0075,

subp. 4. Boilers must also meet the criteria in subitems (1) or (2), which are discussed below.

A boiler is defined as an enclosed device using controlled flame combustion and having specific characteristics including: (1) The combustion chamber and primary energy recovery section must be of integral design (e.g., waste heat recovery boilers attached to incinerators are not boilers); (2) thermal energy recovery efficiency must be at least 80%; and (3) at least 75% of recovered energy must be "exported" (i.e., not used for internal uses like preheating of combustion air or fuel, or driving combustion air fans or feedwater pumps).

Subitem (1) further defines industrial boilers that burn hazardous waste fuel to be ones which are located on the site of an establishment engaged in a manufacturing process where substances are transformed into new products, including the component parts of products, by mechanical or chemical processes.

Subitem (2) further defines utility boilers to be ones that produce electric power, steam, or heated or cooled air or other gases or fluids for sale.

Owners and operators of utility boilers are burners regulated in the same way as owners and operators of industrial boilers. Utility boilers are identified separately only as an indirect means of identifying nonindustrial boilers subject to the prohibitions. This is equivalent to 40 CFR § 266.31(b)(2).

Industrial furnaces are enclosed devices that are integral components of a manufacturing process and use a controlled flame to accomplish recovery of materials or energy. Industrial furnaces include cement kilns, lime kilns, aggregate kilns (which include asphalt kilns), blast furnaces, and smelting, melting and refining furnaces. Owners and operators of industrial furnaces are subject to Minn. Rules pt. 7045.0692 when they burn hazardous waste for energy recovery.

It is reasonable to limit the type of combustion device allowed to burn hazardous waste fuel to those that meet the definitions of industrial boilers and industrial furnaces because these identified units: (1) have more sophisticated air emission control equipment than nonindustrial burning devices; (2) are structured to burn these types of fuels, thus eliminating major maintenance problems which can lead to inadvertent air contamination; and (3) must have a Minnesota air quality emissions permit which regulates air emissions and facility operations. This is equivalent to 40 CFR § 266.31(b)(1).

Item B also references Minn. Rules pt. 7045.0075, subp. 4. This existing provision allows a person to petition the Agency's Commissioner to determine if certain enclosed devices using controlled flame combustion meet the definition of a boiler as defined in Minn. Rules pt. 7045.0020, subp. 6a. Certain combustion devices may meet the definition of a boiler, but are not classified as boilers. It is reasonable to include Minn. Rules pt. 7045.0075, subp. 4 in item B for those persons who wish to burn hazardous waste fuel, but who do not own or operate a boiler that meets the definition of boiler as defined in Minn. Rules pt. 7045.0020, subpart 6a.

Minn. Rules pt. 7045.0692, subp. 2, item C prohibits hazardous waste from being burned in cement kilns, unless the cement kiln fully complies with the thermal treatment standards located in Minn. Rules pt. 7045.0542. This provision has been moved and amended from the existing Minn. Rules pt. 7045.0125, subp. 10, item C. The existing Minn. Rules pt. 7045.0125, subp. 10, item C, subitem (1) has the same meaning as Minn. Rules pt. 7045.0692, subp. 2, item C. The parallel federal requirement in 40 CFR § 266.31 (c) requires the imposition of the thermal treatment standards to cement kilns only within municipalities with populations greater than 500,000. (Thermal treatment of hazardous waste uses elevated temperatures in order to destroy the hazardous

waste.) Although Minnesota does not have any municipalities with populations greater than 500,000 nor does it have a cement plant, the provision for cement kilns is included to maintain consistency with the federal requirements. The proposed state rule, however, is more stringent than the federal rule in that it applies to all cement kilns regardless of the location. It is reasonable to apply the thermal treatment standards without regard to population size in order to protect public health and the environment throughout the state. Such a provision will ensure that if a cement kiln is developed in the state, the same standards will apply regardless of location. This is equivalent to 40 CFR § 266.31(c).

Minn. Rules pt. 7045.0692, subp. 3 establishes standards for generators of hazardous waste fuel. Generators of hazardous waste that is used as a fuel or used to produce a fuel are subject to the requirements of Minn. Rules pts. 7045.0205 to 7045.0304, which are the standards applicable to generators of hazardous waste.

It is reasonable to require generators of hazardous waste that is used as a fuel or is used to produce a fuel to comply with the same standards applicable to generators of hazardous waste. Even though the hazardous waste is being used for energy recovery, it is a hazardous waste and it is therefore necessary for the fuel to be managed accordingly. The same concerns exist for the mismanagement of hazardous waste fuel as exist for hazardous waste. The waste fuel may still leak during storage and present a public safety concern as it is accumulated and transported. The Agency is concerned that in many cases the value of the hazardous waste fuel is less than refined virgin fuel and there is less incentive to prevent loss through spillage or mismanagement. The requirement is equivalent to 40 CFR § 266.32(a).

Subpart 3 also refers generators who market hazardous waste fuel to a burner, to the marketer requirements in subpart 5 of this part and refers generators who are burners to the requirements for burners of hazardous waste fuel in subpart 6 of this part. If generators of hazardous waste market the waste as a fuel or burn it as a fuel, they incur additional responsibilities. It is reasonable to require them to comply with the applicable additional requirements set forth in subparts 5 and 6 of this part. This is equivalent to 40 CFR § 266.32(b) & (c).

Minn. Rules pt. 7045.0692, subp. 4 sets forth standards applicable to transporters of hazardous waste fuel. Transporters of hazardous waste fuel and hazardous waste that is used to produce a fuel are subject to the requirements of Minn. Rules pts. 7045.0351 to 7045.0397, which establish requirements applicable to transporters of hazardous waste. The main feature of the requirements is a manifest system which allows regulators to track the movement of hazardous waste. Subjecting transporters of hazardous waste fuel to the same requirements for transporters of hazardous waste allows regulatory officials to track hazardous waste fuel from the point of processing, blending or other treatment to the point of burning, thus making the prohibition on burning in nonindustrial boilers enforceable. Equally important the manifest alerts persons who handle these materials that they are receiving a hazardous waste. Therefore, this provision is reasonable. This is equivalent to 40 CFR § 266.33.

1. Marketer Requirements.

Minn. Rules pt. 7045.0692, subp. 5 sets forth standards applicable to marketers of hazardous waste fuel. A marketer of hazardous waste fuel is a person who offers for sale or gives hazardous waste fuel to another marketer or burner. A marketer includes a generator who markets hazardous waste fuel

directly to a burner, a person who receives hazardous waste from generators and produces, processes, or blends hazardous waste fuel from these hazardous wastes, and a person who distributes but does not process or blend hazardous waste fuel (see amended definition of a marketer in Minn. Rules pt. 7045.0020, subp. 55a). A person who is a marketer is subject to the requirements set forth in items A to F as follows.

Item A requires a marketer of hazardous waste that is used as a fuel or used to produce a fuel to notify the EPA to identify hazardous waste fuel activities. If the marketer has previously notified the EPA of hazardous waste management activities other than hazardous waste fuel activities, the marketer must still renotify specifically to identify any hazardous waste fuel activities. EPA has revised the hazardous waste notification form to accommodate waste-as-fuel activities. The revised notification form provides EPA with the number and location of facilities involved in processing, blending, marketing, and distributing waste fuels and also the number, type and location of burners. The data generated by the requirement to notify EPA of hazardous waste fuel activities will be used to develop a general profile of the waste fuel industry and to assist in future regulatory development, and is therefore reasonably included in this subpart. This is equivalent to 40 CFR § 266.34(b).

Item B requires a marketer to comply with the prohibitions outlined in subpart 2, item A of this part, which identifies to whom hazardous waste fuels can be marketed (persons who have notified EPA and who have an EPA identification number and burners who will burn the fuel in approved burning devices). This requirement merely references subpart 2, item A and is appropriately included here because this subpart discusses marketer

requirements (see subpart 2, item A of this part). This is equivalent to 40 CFR § 266.34(a).

Item C sets forth additional requirements for a marketer. If a marketer is a generator, or becomes a generator by initiating a shipment of hazardous waste fuel, the marketer must comply with the requirements of Minn. Rules pts. 7045.0205 to 7045.0304. As is discussed above, generators of hazardous waste that is used as a fuel or is used to produce a fuel are subject to the standards applicable to generators of hazardous waste. The same concerns exist for generators who are also marketers and this requirement is therefore appropriate. This is equivalent to 40 CFR § 266.34(d).

If the marketer operates a hazardous waste facility, the marketer must comply with the facility requirements of Minn. Rules pts. 7045.0450 to 7045.0534. A marketer who operates a hazardous waste facility that either treats, stores or disposes of hazardous waste and who also manages hazardous waste that is used as a fuel is subject to the facility standards established in Minn. Rules pts. 7045.0450 to 7045.0534. If a marketer is operating a facility under interim status, the marketer must comply with Minn. Rules pts. 7045.0552 to 7045.0632. Again, it is reasonable to include these provisions since hazardous waste fuel is a hazardous waste, and the facilities where such waste is managed present the same concerns for the environment and human health. This is equivalent to 40 CFR § 266.34(c).

A marketer who stores hazardous waste used as a fuel, must comply with the Agency's permitting procedures in chapter 7001 for storage of hazardous waste. It has been argued that hazardous waste fuel is a valuable inventory item and therefore will be stored properly and need not be subject to the storage requirements applicable to hazardous waste that is stored prior to disposal. Despite the fact that they are fuels, hazardous waste fuels in many cases do

not command substantial economic value. In some situations, burners are even paid to accept these materials. The fact that a hazardous waste fuel is being stored as a commodity is insufficient assurance that the waste will be managed to prevent substantial risk. Historically, there have been many damage incidents from product and raw material storage, such as major spills from underground and above-ground product storage tanks, including fuel storage tanks (see 49 Fed. Reg. 29418, July 20, 1984). Leaks and spills from hazardous waste tank storage is always a possibility. The risk to human health and the environment associated with a leak is substantial and requires regulatory control. Therefore, it is reasonable to impose protective storage requirements on hazardous waste fuels. This is equivalent to 40 CFR § 266.34(c).

Items D, E and F establish administrative and recordkeeping requirements for marketers. Item D states, "Before a marketer initiates the first shipment of hazardous waste fuel to a burner or another marketer, a one-time written and signed notice from the burner or marketer must be obtained certifying that: (1) the burner or marketer has notified the Environmental Protection Agency and identified the waste-as-fuel activities; and (2) if the recipient is a burner, the recipient burner will burn the hazardous waste fuel only in an industrial furnace or boiler identified in subpart 2, item B." The reasonableness of this notification requirement and the limitations on the type of burner this fuel can be marketed to is discussed below in conjunction with items E and F. This is equivalent to 40 CFR § 266.34(e)(1).

Item E states, "Before a marketer accepts the first shipment of hazardous waste fuel from another marketer, the receiving marketer must provide the other marketer with a one-time written and signed notice certifying that the receiving marketer has notified the Environmental Protection Agency and identified the receiving marketer's hazardous waste fuel activities." This

requirement is equivalent to 40 CFR § 266.34(e)(2) and is reasonable because it provides EPA with current information on hazardous waste fuel marketing activities. This is further discussed below.

Item F states, "In addition to the applicable record keeping requirements of parts 7045.0205 to 7045.0304, 7045.0450 to 7045.0534, and 7045.0552 to 7045.0632, a marketer must keep a copy of each certification notice received or sent for three years from the date the marketer last engaged in a hazardous waste fuel marketing transaction with the person who sent or received the certification notice." Three years is a reasonable time period to ensure that transactions can be verified and is further discussed below. This is equivalent to 40 CFR § 266.34(f).

To insure compliance with the prohibition on burning hazardous waste fuel in nonindustrial boilers, the prohibition applies not only to the boiler owner and operator, but also to the waste fuel marketer. Thus, a marketer may not sell hazardous waste fuel to a person who burns it in a nonindustrial boiler but must ensure that the fuels are marketed only to persons included in the regulatory system; these are persons who have notified EPA of their waste-as-fuel activities. The requirement for marketers to receive a certification from the burner stating that the purchaser has notified EPA of his waste-as-fuel activities and will burn the fuel only in unrestricted boilers and furnaces is necessary to ensure that the hazardous waste fuel is not being burned in nonindustrial burning devices. It also ensures that the recipient is aware of the regulations applicable to waste fuels and of his or her responsibilities as a burner or fuel marketing intermediary.

The recordkeeping requirements are limited requirements designed primarily to keep track of the movement of hazardous waste fuels. The substantive prohibitions as well as the various administrative requirements would not be

enforceable without these recordkeeping requirements, which are therefore reasonably included in the requirements for marketers of hazardous waste fuels in items D, E, and F.

2. Burner Requirements.

Minn. Rules pt. 7045.0692, subp. 6 establishes standards applicable to burners of hazardous waste fuel. Owners and operators of industrial furnaces and industrial boilers, identified in subpart 2, item B, of this part, who burn hazardous waste fuel are subject to the following requirements in items A to F.

Item A requires a burner to notify the EPA of hazardous waste fuel activities and to obtain an EPA identification number. If a burner has previously notified the EPA of the burner's hazardous waste management activities and obtained an EPA identification number, the burner must renotify EPA of any new management of hazardous waste fuels and identify the specific hazardous waste fuel activity (burning). This notification to EPA is reasonable for the same reasons stated in subp. 5 for marketers of hazardous waste fuel. This is equivalent to 40 CFR § 266.35(b).

Item B requires a burner, before acceptance of the first shipment of hazardous waste fuel, to provide a marketer of hazardous waste fuel a one-time written and signed notice certifying that: (1) the burner has notified the EPA and identified the burner's waste-as-fuel activities; and (2) the burner will burn the fuel only in a boiler or furnace identified in subpart 2, item B of this part. These conditions were previously discussed in Minn. Rules pt. 7045.0692, subp. 5, item D and are reasonable for the same reasons presented there. This is equivalent to 40 CFR § 266.35(d).

Item C establishes a time frame for burners for which records must be retained, such as the certification the burner sends to a marketer identifying

the burner's EPA identification number and the waste-as-fuel activities, and assuring that the hazardous waste fuel will be burned in an industrial boiler, industrial furnace or utility boiler. A burner must keep a copy of each certification notice that the burner sends to a marketer for three years from the date the burner last receives hazardous waste from that marketer.

Burners of hazardous waste fuel who also operate a facility are also subject to the recordkeeping requirements of Minn. Rules pts. 7045.0478 to 7045.0482, facility standards, and Minn. Rules pts. 7045.0584 to 7045.0588, facilities regulated under interim status. A burner's certification requirement to a marketer (item B), the requirement for retaining records for a period of three years (item C), and the applicable recordkeeping requirements under Minn. Rules pts. 7045.0478 to 7045.0482, and 7045.0584 to 7045.0588 (item C) are reasonably added for the same reasons stated above in subpart 5 of this part for marketers. This is equivalent to 40 CFR § 266.35(e).

Item D establishes requirements for generators who accumulate hazardous waste fuel on-site and who also burn it within the allowed accumulation time periods. Generators who accumulate hazardous waste fuel for up to 90 days before burning on-site must comply with the requirements of Minn. Rules pt. 7045.0292. Small quantity generators who accumulate hazardous waste fuel before burning on-site within the accumulation time period allowed in Minn. Rules pt. 7045.0219, must only comply with the requirements of that part. If the hazardous waste fuel accumulated on-site is burned before the designated accumulation time period is up, the generator is not required to obtain a permit from the Agency for storage of hazardous waste fuel. Only when the accumulation time periods are exceeded, are generators required to obtain a storage permit. The existing requirements in chapter 7001 require a storage permit for hazardous waste that is stored past the accumulation time periods

established in Minn. Rules pts. 7045.0292 and 7045.0219. The requirement to obtain a permit acts to protect human health and the environment from the increased risk of mismanagement of long term storage of hazardous waste. It is therefore reasonable to allow generators, who accumulate hazardous waste to be used as a fuel or used to produce a fuel and who also burn it on-site, to accumulate this hazardous waste and not obtain a storage permit, if the accumulation time periods and other requirements of Minn. Rules pts. 7045.0292 and 7045.0219 are met. This is equivalent to 40 CFR § 266.35(c)(1).

Item D also states, "Burning by the generator of a hazardous waste that is a sludge or is or contains a waste listed in part 7045.0135 for reasons other than ignitability or is or contains a waste that is toxic under part 7045.0131, subpart 6, is subject to the additional requirements of item E, subitem (2)." This additional provision is intended for those generators who accumulate hazardous waste fuel, but who burn it before the accumulation time period is up. Item D refers to the requirements in item E, subpart (2) which incorporates the thermal treatment standards if this type of waste is burned for energy recovery. Burning waste which is listed or is toxic presents a risk to human health and the environment if it is not burned efficiently and destroyed sufficiently. Therefore, it is appropriate to subject hazardous waste that is a sludge or is or contains a listed waste other than ignitability or is or contains a toxic waste, to the requirements in item E, subpart (2).

This provision in item D is based on existing requirements under Minn. Rules pt. 7045.0125, subp. 10, items A and B. The existing Minn. Rules pt. 7045.0125, subp. 10 was initially established for hazardous waste being transported or stored before being beneficially used by burning. These existing provisions are being assimilated into items D, E, and F of subpart 6 in the new part on hazardous waste fuels. Transportation of hazardous waste

used as a fuel is discussed in subpart 4 of this part. This is reasonable since it more clearly identifies requirements for generation, transportation, storage and burning of hazardous waste fuel. Item B of Minn. Rules pt. 7045.0125, subp. 10 is now included in item E, subitem (2) of this part.

Item E sets forth requirements for generators who accumulate waste for longer than the time periods allowed in item D of this part. Subpart D refers to Minn. Rules pts. 7045.0292 and 7045.0219, which identify the accumulation time periods. Item E applies to those burners who receive hazardous waste (no matter what type of waste) to be used as a fuel or used to produce a fuel from off-site and who store it. Subitem (1) and (2) outline the requirements these generators are expected to comply with, as follows.

Subitem (1) requires a generator to comply with the Agency's permitting procedures in chapter 7001 for hazardous waste storage facilities, Minn. Rules pts. 7045.0205 to 7045.0536, and Minn. Rules pt. 7045.0544 for generators, transporters and facility owner and operators, Minn. Rules pts. 7045.0552 to 7045.0632 for interim status facility operators, Minn. Rules pts. 7045.1000 to 7045.1030, the county regulations applicable to hazardous waste management, and Minn. Rules pts. 7045.1300 to 7045.1380, the land disposal restrictions.

Subitem (1) requires all persons who store hazardous waste prior to burning to obtain a hazardous waste storage facility permit. This requirement for hazardous waste used as a fuel is no different from the existing requirements for hazardous waste beneficially used by burning which are currently located in Minn. Rules pt. 7045.0125, subp. 10. Therefore, the requirement to obtain a storage permit is appropriately moved to this new part discussing hazardous waste burned for energy recovery. Also, the requirement to obtain a storage permit will minimize the risk to public health and the environment from improper management of excessive quantities of hazardous waste to be used as a

fuel. By imposing hazardous waste generator, transporter, and facility standards on the owners or operators of storage facilities, the regulated community, the public at large and regulators will be assured that the hazardous waste fuel is being stored and handled properly. This is equivalent to 40 CFR § 266.35(c)(2) & (3).

The existing Minn. Rules pt. 7045.0125, subp. 10, item B, included Minn. Rules pts. 7045.0205 to 7045.0534 and Minn. Rules pt. 7045.0544 for generators, transporters, and operators of storage facilities, Minn. Rules pts. 7045.0552 to 7045.0632 for operators of storage facilities, and the permit requirements in chapter 7001. The requirement to comply with this chapter and these parts is now addressed in subitem (1) of item E.

Subitem (2) states "if the hazardous waste to be burned is a sludge or is or contains a waste listed in part 7045.0135 for reasons other than ignitability, or is or contains a waste that is toxic under part 7045.0131, subpart 6, then parts 7045.0542, excluding subpart 4, item C, and subpart 7, item A, subitem (2); and 7045.0640 apply." Parts 7045.0542 and 7045.0640 set forth requirements for thermal treatment facilities. This existing requirement has been moved to this part, which deals with hazardous waste burned for energy recovery. Therefore, it is reasonable to add it to this part.

Item F requires a burner to abide by Minnesota and federal air quality regulations. This includes obtaining an air quality permit if necessary. This is an existing requirement that has been incorporated into this part from the existing Minn. Rules pt. 7045.0125, subp. 10. Item F also states, "compliance with this part does not release a burner from any obligation to comply with local air quality ordinances or codes." This is a reasonable statement because there may be regulations by municipalities, towns or cities which may affect

burners of hazardous waste used as a fuel that the state and federal government do not have.

K. Minn. Rules Pt. 7045.0695 Used Oil Burned for Energy Recovery.

The Agency does not intend to regulate used oil burned for energy recovery as a hazardous waste. Burning for energy recovery is considered to be recycling and, therefore, used oil is not subject to the more stringent requirements of the hazardous waste rules. If used oil is burned for energy recovery, it is subject to the regulations set forth in this part. However, if used oil is deliberately mixed with a hazardous waste, depending on the situation, it may fall under the hazardous waste rules and is regulated accordingly. The requirements of this part are specifically intended to prohibit the burning of contaminated used oil in nonindustrial burning devices. The requirements of this part primarily limit the type of burning device allowed to burn contaminated used oil and place administrative and recordkeeping requirements on marketers and burners of used oil burned for energy recovery. These requirements serve to prohibit the burning of contaminated used oil in nonindustrial burning devices.

This part applies to used oil and fuels produced by processing, blending, or other treatment that are burned for energy recovery in a boiler or furnace that is not operating under RCRA standards for hazardous waste incinerators. "Used oil" means any oil that has been refined from crude oil, used, and as a result of such use, is contaminated by physical or chemical impurities. Used oils include the following: (1) spent automotive lubricating oils, including car and truck engine oil, transmission fluid, brake fluid, and off-road engine oil; (2) spent industrial oils, including compressor, turbine, and bearing oils, hydraulic oils, metalworking oils, gear oils, electrical oils,

refrigerator oils, and railroad drainings; and (3) spent industrial process oils.

This part applies only to used oil and not necessarily to "oily waste." Oily waste, such as bottom clean-out waste from virgin fuel oil storage tanks, or virgin fuel oil spill clean up, are not used oils because the oil was never "used" for its intended purpose. Thus, oily waste is not subject to this part, although as a waste it is subject to other parts of the hazardous waste rules.

Many of the administrative and recordkeeping requirements that are outlined in this part are very similar to the ones previously addressed in Minn. Rules pt. 7045.0692, but will be repeated for purposes of this document.

Minn. Rules pt. 7045.0695, subp. 1 establishes the scope of this new part. It states, "The requirements of this part apply to used oil that is burned for energy recovery in a boiler or industrial furnace that is not regulated under part 7045.0542 or 7045.0640." This statement is reasonable since Minn. Rules pts. 7045.0542 and 7045.0640 strictly regulate certain types of hazardous waste by requiring the burning facility to meet the thermal treatment standards. (Again, thermal treatment of hazardous waste uses highly controlled elevated temperatures to destroy the hazardous waste.) There is no need to subject used oil to these strict burning requirements because burning used oil in boilers and furnaces that do not meet the thermal treatment standards poses no threat to human health and the environment if the boilers and furnaces are operating efficiently. This is equivalent to 40 CFR § 266.40(a).

Subpart 1 continues by stating, "Used oil burned for energy recovery is subject to regulation under this part rather than as hazardous waste fuel under part 7045.0692, even if it exhibits a characteristic of hazardous waste identified in part 7045.0131, provided that it has not been intentionally mixed with a characteristic hazardous waste. Used oil intentionally mixed with a

characteristic hazardous waste as identified in part 7045.0131 is regulated as specified in part 7045.0102, subpart 3." As discussed previously, used oil can be contaminated by characteristic hazardous waste during the course of using the oil. This used oil, if recycled, is not subject to regulation as a hazardous waste, but is subject to the requirements of this part. However, if characteristic hazardous waste is deliberately mixed with used oil, it is subject to further regulation under Minn. Rules pt. 7045.0102, subp. 3, which outlines certain mixing requirements for characteristic hazardous waste and listed hazardous waste. It is reasonable to establish less stringent requirements for used oil that is contaminated through its use because if proper collection, marketing and burning of the used oil is accomplished, there is no threat to the environment and human health. It is also reasonable to more stringently regulate used oil that is intentionally mixed with a characteristic hazardous waste in order to maintain safe management practices for the resultant mixtures. This is equivalent to 40 CFR § 266.40(c) & (d).

Item A of subpart 1 lists specific situations in which used oil is not regulated by this part. Subitem (1) states, "Used oil that has been intentionally mixed with a hazardous waste listed in part 7045.0135 is regulated under part 7045.0692 if it is to be burned for energy recovery." A hazardous waste fits into either one of two categories. A waste either exhibits a characteristic of hazardous waste or it is listed for certain properties that are either known or are suspected to be very harmful or toxic to human health and/or the environment. Mixing a listed hazardous waste with used oil will not lessen the adverse effect a listed hazardous waste will have on the environment and/or human health. Thus mixing a listed waste with used oil will only create a larger quantity of listed hazardous waste. If the mixture is to be burned for energy recovery, it is subject to the more

stringent management requirements of hazardous waste fuels and is therefore reasonably prohibited from being managed the same as used oil.

Subitem (2) of item A discusses used oil containing more than 1,000 parts per million (ppm) total halogens. Halogens are commonly found in pesticide wastes and chlorinated solvents. If used oil is found to have over 1,000 ppm of total halogens it is presumed to have been mixed with a hazardous waste listed in Minn. Rules pt. 7045.0135 and is a hazardous waste. It is then subject to the requirements for hazardous waste fuel in Minn. Rules pt. 7045.0692 if it is to be burned for energy recovery. This presumption may be rebutted by a demonstration that the used oil does not contain excessive quantities of halogenated hazardous waste. The provision is reasonable for the reasons stated below. It is equivalent to 40 CFR § 266.40(c).

This provision reiterates the basic principle found in Minn. Rules pt. 7045.0102, which states that if a listed hazardous waste is mixed with a nonhazardous waste, the resultant mixture is a hazardous waste and is subject to the hazardous waste rules. Under Minn. Rules pt. 7045.0102, mixtures of hazardous waste and used oil ordinarily would be classified as hazardous waste. However, because of the nature of used oil, it is not always possible to prove that such mixing has occurred. Analysis of the oil will not always provide a basis for determining whether intentional mixing has occurred.

EPA established the "rebuttable presumption of mixing" in response to the need to develop a simple, objective test to determine when used oil has been mixed with hazardous spent halogenated solvents (or other halogenated hazardous waste) in order to avoid case-by-case confusion as to when mixing has occurred, and to aid in consistent enforcement of the regulation. The "rebuttable presumption of mixing" presumes that used oil containing more than 1,000 ppm total halogens has not been contaminated through use and has been mixed with

hazardous spent halogenated solvents or other hazardous halogenated wastes. Such used oil is therefore a hazardous waste under the provision of the "mixture rule" of 40 CFR § 261.3 and Minn. Rules pt. 7045.0102. The presumption that mixing has occurred may be rebutted by demonstrating to enforcement officials that the oil is not mixed with hazardous waste. The burner or marketer in possession of the contaminated oil may be required to respond to an Agency enforcement action or may have to respond to MnDOT requirements.

Minn. Rules pt. 7045.0695, subp. 1, item B differentiates between oil that is off-specification used oil and oil that is on-specification used oil. Used oil burned for energy recovery and any fuel produced from used oil by processing, blending, or other treatment, is classified as off-specification used oil fuel if it exceeds any of the allowable levels of the constituents and properties set forth in subitem (1) of this item. Subitem (1) lists four constituents and the allowable levels of those constituents, a flash point and a total halogen level for used oil. These specifications are set forth to distinguish between oil that meets the specifications, or on-specification used oil, and oil that does not meet the specifications, or off-specification used oil. The two classifications of used oil are regulated somewhat differently and are addressed in more detail in the following discussion. Item B, however, identifies the requirements for the management of on-specification used oil by stating, "On-specification used oil fuel as defined in part 7045.0020, subpart 60a, is subject only to the analysis and record keeping requirements under subpart 3, item B, subitems (1) and (8)." Subpart 3 discusses standards applicable to marketers of used oil to be burned for energy recovery and item B, subitems (1) and (8), list management requirements for used oil that is

"on-specification used oil" and lists what a marketer must do if he claims that the oil is on-specification used oil.

Subitem (1) lists the specifications for used oil. Used oil that does not meet the allowable levels for the constituent or property listed, is subject to full regulation under this part when burned for energy recovery. Used oil that meets the specification levels is considered to be similar to virgin fuel oil and may be burned without the same extensive regulations as used oil that exceeds the specified levels. On-specification used oil may be burned in unregulated units such as commercial and institutional heating units. Given that oil meeting the specification parameters may be burned in these nonindustrial facilities, the specifications are intended to be protective under virtually all circumstances.

EPA established the specifications for those constituents and properties that may pose increased risks at levels that are cause for concern given the large number of exposed individuals in urban areas (nonindustrial heating units are typically located in urban areas). Constituents that are typically found in used oil at levels greater than in virgin fuel oils were included in the specifications. Higher levels of these constituents could pose substantial risk, and levels lower than those constituents found in virgin fuel oil would not provide greater protection of human health and the environment than if used oil is replaced (as it would be) by virgin oil. Therefore, the specifications were set for those constituents and properties found in used oil that would pose a threat above and beyond the burning of virgin fuel oils. EPA did not propose specification levels for compounds found in used oil at the same or lower levels than are found in virgin refined fuel oil because users could simply switch to virgin oil to replace the recycled product without any environmental benefit. The following allowable levels have been established by

EPA through an extensive evaluation of the components of used oil and are justified in 40 Fed. Reg. 49181 (November 29, 1985).

Total halogens are part of the specification parameters. Total halogens are included because burning fuels with high chlorine levels can have direct and indirect effects on human health and the environment. Hydrogen chloride emissions from burning such fuels can increase ambient levels of hydrochloric acid and contribute to acid rain. Equally important, the chlorine can also accelerate corrosion of boiler components which could decrease combustion efficiency resulting in increased emissions of incompletely burned combustion products. Corrosion of any air emissions control equipment could also be accelerated, reducing control efficiency and directly increasing emissions of pollutants.

The specification level for total halogens is 4,000 ppm and is based on halogen levels in high chlorine coal that is frequently burned as a fuel. This is a reasonable level since burning fossil fuels having the same level of chlorine has not been found to accelerate typical corrosion rates, and thus do not contribute to increased emissions of air pollutants. The specification parameter of 4,000 ppm applies only to used oil fuel after it has been determined that the used oil has not been mixed with a halogenated solvent.

Lead is a constituent included in the specifications. On-specification used oil to be burned in a nonindustrial unit must not exceed 100 ppm. This level was selected for a number of different reasons, the first being that levels higher than 100 ppm could result in ambient lead levels exceeding the National Ambient Air Quality Standard (NAAQS) for lead in densely populated areas where boilers are clustered together and receptors may be close to the sources. EPA is also considering new data which suggests that any level of

lead exposure causes serious health effects which may result in future amendments to alter the lead specification.

Secondly, a specification level lower than 100 ppm could result in used oil currently burned as fuel being diverted to incineration, or perhaps being dumped, because the cost of blending used oil to meet such a stringent specification could be prohibitive. If a lower specification than 100 ppm would cause used oil that is currently being burned as a fuel to be diverted to incineration, the environmental benefits of that policy are questionable. It is not clear that metals emissions from incineration would be adequately controlled given that many hazardous waste incinerators use wet scrubbers and may not control lead emission efficiently. Therefore, it is reasonable to use the level of 100 ppm. The benefits from a reduced lead emission from used oil burned as a fuel will be lost by the increased probability of adverse effects from dumping and the increased diversion of used oil from use as a fuel to incineration.

Arsenic, cadmium and chromium are also included in the specifications. Unrestricted burning of used oil in boilers can result in a substantial increase in ambient levels of these metals since it is known that between 30-75% of the metals in the fuel can be emitted to the atmosphere. These metals are known to be carcinogenic and thus have no threshold or safe level of exposure, and increased ambient concentrations would cause an increased risk of cancer to exposed individuals. The specification levels are based on levels of these metals found in low grade virgin fuel oil. It is reasonable to set the levels based on low grade virgin fuel oil since: (1) higher numbers of persons in urban areas are exposed to emissions from nonindustrial boilers; and (2) lower levels could result in low grade virgin fuel oil displacing used oil as a

fuel source without environmental benefit. Therefore, the level for arsenic is reasonably set at 5 ppm, cadmium at 2 ppm and chromium at 10 ppm.

Flash point. Crankcase oils can be contaminated during use with highly ignitable constituents of gasoline such as benzene, toluene, and xylene from engine blow-by. Used oils can also be mixed after use with gasoline or other highly ignitable nonhalogenated solvents such as xylene. Even low levels of contamination with these low flash point compounds can reduce the flash point of used oil, normally greater than 200 degrees Fahrenheit, to levels lower than 100 degrees Fahrenheit. The level of 100 degrees Fahrenheit is the level established for the specifications since it is the same level used by the American Society for Testing and Materials (ASTM) as the minimum flash point specification level for virgin fuel oils. It is reasonable to use this as the level for off-specification used oil to provide an acceptable measure of safety. Burners are not accustomed to handling low flash point fuels, and used oils with lower flash points may present significant hazards during handling and storage. Wastes with such low flash point used oils need to be controlled by more stringent regulation than is provided for used oil.

Subitem (2) of item B states that the specifications set forth in item B, subitem (1) do not apply to used oil fuel mixed with a listed hazardous waste identified in Minn. Rules pt. 7045.0135. These mixtures are more stringently regulated as a hazardous waste fuel under Minn. Rules pt. 7045.0692. As stated before, used oil that is mixed with a listed hazardous waste still will retain the hazardous property of the listed hazardous waste, thus making the entire mixture a listed hazardous waste. Creating the specifications for used oil establishes a market (nonindustrial burning devices) that can burn used oil safely, thereby reusing a valuable resource. The specifications were selected for constituents and properties similar to those contained in virgin fuel,

thus, establishing a type of used oil that is no greater a threat to human health or the environment than virgin fuel oils. It is therefore reasonable to add this provision to this part in order to protect persons who operate nonindustrial burning devices and those persons who reside in areas near these units.

Subitem (3) of item B discusses further the "rebuttable presumption of mixing." If the presumption of mixing is not successfully rebutted, used oil containing more than 1,000 ppm total halogens is presumed to be a hazardous waste under the rebuttable presumption provided in item A, subitem (2) of this part. This used oil is subject to Minn. Rules pt. 7045.0692 when burned for energy recovery. If the presumption of mixing is successfully rebutted and the oil is on-specification used oil, it is subject only to the reduced requirements identified in subpart 3, item B, subitems (1) and (8). Used oil that is proven not to have been mixed with a halogenated hazardous waste can have up to 4,000 ppm of total halogens in the used oil. If the used oil meets all the parameters listed in the specifications for used oil and the oil also has 4,000 ppm or less of total halogens, the oil can be marketed as on-specification used oil. This is a reasonable approach if the oil is then managed in accordance with the limited provisions for on-specification used oil. Subpart 1, item B including subitems (1), (2) and (3) is equivalent to 40 CFR § 266.40(e).

Minn. Rules pt. 7045.0695, subp. 2 establishes standards applicable to generators of used oil to be burned for energy recovery. Item A provides that generators who market used oil directly to a burner of used oil function as marketers and are subject to the marketer requirements in subpart 3. Item B states that generators who also burn used oil are subject to the burner requirements in subpart 4. Generators who merely "generate" used oil and who

give their oil to a marketer and/or burner are not subject to any additional requirements of this part. It is reasonable to subject generators of used oil to the marketer and/or burner requirements if they also act as marketers and/or burners. It is also reasonable not to further regulate generators who do not market or burn used oil if the oil they generate is destined for recycling, such as burning for energy recovery. This is equivalent to 40 CFR § 266.42.

1. Marketer Requirements.

Minn. Rules pt. 7045.0695, subp. 3 sets forth standards applicable to marketers of used oil to be burned for energy recovery. Item A lists persons who are not considered marketers. Subitem (1) lists persons who are not marketers as being used oil generators and collectors who transport used oil received only from generators, unless the generator or collector markets the used oil directly to a person who burns it for energy recovery. These persons are considered to be "collectors" (see definition in Minn. Rules pt. 7045.0020, subp. 9a). It is reasonable to exclude these "collectors" from the requirements specified for marketers since the fuel eventually is marketed to burners by legitimate marketers who are subject to the administrative and recordkeeping requirements. These requirements are established to assure that off-specification used oil is not marketed or burned in nonindustrial burning devices.

Subitem (2) of item A in subpart 3 lists the second category of persons who are not considered to be marketers as "Persons who market only on-specification used oil fuel and who are not the first person to claim the used oil meets the specifications of subpart 1, item B" of this part. This is appropriate since persons who are the first to claim that used oil meets the specifications are required to analyze the oil to assure that it meets the specifications, and keep records of the analysis for a period of three years. They are also

required to keep an operating log for a period of three years. These limited requirements are further discussed in item B of this subpart. Used oil meeting the specifications poses no greater risk than virgin fuel oil and once it enters the commercial fuel oil market, should not be regulated differently than virgin fuel oil. There is no need for subsequent marketers of on-specification used oil to comply with the same requirements as initial marketers of this oil and therefore this provision is reasonably added to this item. This is equivalent to 40 CFR § 266.43(a).

Item B discusses the requirements applicable to a marketer of used oil. Subitem (1) states, "Used oil fuel is subject to regulation as off-specification used oil fuel under this part unless the marketer obtains analyses or other information documenting that the used oil is on-specification used oil fuel." It is reasonable to require a person who initially claims used oil meets the specifications to prove the claim since it provides enforcement officials with a basis for determining the applicable level of regulation. If the oil meets the specifications, the oil is not subject to the more stringent off-specification used oil fuel requirements. Allowing "other information" to show that the oil meets the specifications is consistent with a generator's requirements under 40 CFR § 262.11(c), or Minn. Rules pt. 7045.0214, subp. 2, item B, subitem (1), that allow generators to apply knowledge of waste or other information to determine whether a waste is a hazardous waste. As an example, a generator may use knowledge of a previous analysis that proved that oil met the specifications, where the application of the oil has not changed, to prove that the used oil still meets the specifications. Ordinarily, the Agency expects that testing will be used to demonstrate compliance. If a person's determination that used oil meets the specifications is found to be erroneous, the person will be in violation of the regulations, regardless of intent.

The persons required to obtain analyses (or other information) to demonstrate that their used oil fuel meets the specifications include: processors, blenders and burners who treat used oil known to be off-specification to produce specification used oil fuel; and persons who market or burn used oil received directly from generators or collectors as on-specification used oil fuel. Used oil received directly from generators or from collectors who receive oil from generators is presumed to be off-specification unless demonstrated otherwise.

Persons who obtain analysis of used oil to demonstrate compliance with the specifications must ensure that representative samples are obtained and that appropriate analytical procedures are used. This is equivalent to 40 CFR § 266.43(b)(1).

Subitem (2) provides a list of the persons to whom off-specification used oil may be marketed. Unit (a) specifies that these persons must be burners or other marketers who have notified the EPA of their used oil management activities stating the location and general description of those activities, and who also have EPA identification numbers. This notification requirement is reasonable since it informs EPA of who is marketing used oil destined for burning for energy recovery. This notification requirement indirectly enforces the prohibition of burning used oil in nonindustrial burning devices because marketers cannot market used oil to these nonindustrial devices if the oil does not meet the specifications.

Unit (b) of subitem (2) states that a person may market off-specification used oil to burners who burn the used oil in industrial furnaces or boilers identified in subpart 4, item A, subitems (1) and (2). Subpart 4 sets forth standards applicable to burners of used oil burned for energy recovery. Item A, subitems (1) and (2) describe those burning devices in which

off-specification used oil fuel may be burned. They are industrial boilers, industrial furnaces and utility boilers that meet certain criteria listed in item A. The rationale behind this provision is previously discussed in Minn. Rules pt. 7045.0692, subp. 2, item B. This is equivalent to 40 CFR § 266.43(b)(2) and § 266.41(a).

Subitem (3) lists the third requirement with which a marketer must comply. It states, "Even if a marketer has previously notified the Environmental Protection Agency of the marketer's hazardous waste management activities and obtained an EPA identification number, the marketer must renotify the Environmental Protection Agency to identify the marketer's used oil management activities." As discussed above, this notification requirement to EPA is reasonable since it notifies EPA of who is marketing used oil. This information is used by the EPA and state enforcement officials to verify marketers' activities. Further, this requirement acts to indirectly enforce the prohibition for burning off-specification used oil in nonindustrial burning devices. This is equivalent to 40 CFR § 266.43(b)(3)

Subitem (4) requires a marketer who initiates a shipment of off-specification used oil fuel to prepare and send the receiving facility an invoice containing the following information: (a) a unique invoice number; (b) the marketer's own EPA identification number and the EPA identification number of the receiving facility; (c) the names and addresses of the shipping and receiving facilities; (d) the quantity of off-specification used oil fuel to be delivered; (e) the dates of shipment or delivery; and (f) the following statement: "This used oil is subject to EPA regulation under Code of Federal Regulations, title 40, section 266." The invoice requirement will attempt to trace movement of off-specification used oil fuels from the initial marketer through intermediaries to the industrial users who burn the fuel for energy

recovery. This tracking system will create a paper trail that will allow regulatory officials to track the off-specification used oil fuels from the point of processing, blending or other treatment to the point of burning, thus making the prohibition on burning in nonindustrial boilers enforceable. The invoice will also inform persons of the type of fuel they are accepting. The invoice required for marketers is similar to the manifest that accompanies hazardous waste and includes similar information. However, the invoice does not have to accompany each shipment of oil, as does a manifest. The invoice requirement is reasonable since it establishes a way to track off-specification used oil and thus makes the prohibition for burning this oil in nonindustrial burning devices enforceable. This is equivalent to 40 CFR § 266.43(b)(4).

Subitem (5) requires used oil that meets the definition of combustible liquid or flammable liquid in Minn. Rules pt. 7045.0020, subps. 9b and 24b, respectively, to meet the additional requirements of the United States Department of Transportation's hazardous materials regulations in 49 CFR § 100 to 177. Since used oil is transported to different locations by roadway, it is reasonable to reference the existing requirements for transporters of oil in the applicable parts of the federal regulations. This is equivalent to 40 CFR § 266.43(b)(4).

Subitem (6) lists the certification a marketer must make before the first shipment of off-specification used oil fuel can be marketed. The marketer must obtain a one-time written and signed notice from: (a) the burner or other marketer certifying that the burner or marketer has notified the EPA, stating the location and general description of the marketer's used oil management activities; and (b) if the recipient is a burner, the burner will burn the off-specification used oil fuel only in an approved unit such as an industrial furnace, industrial boiler or utility boiler identified in subpart 4, item A,

parts of products, by mechanical or chemical processes." Subitem (2) states "utility boilers used to produce electric power, steam, or heated or cooled air or other gases or fluids for sale." The reasonableness of this item, except subitem (3), is the same as discussed in Minn. Rules pt. 7045.0692, subp. 2, item B.

Item A, subitem (3) identifies an additional type of burning device where used oil can be burned. A used oil-fired space heater can burn used oil if: (a) the heater burns only used oil that the owner or operator either generates or has received from a do-it-yourself oil changer who generates used oil as a household waste; (b) the heater is designed to have a maximum capacity of 0.5 million Btu per hour; and, (c) the combustion gases from the heater are vented to the out-of-doors.

Used oil space heaters are very small heaters frequently used in service stations and auto repair shops. The units typically burn 1 to 2 gallons of used crankcase oil per hour. Ninety percent of the heaters operate by the vaporization of oil from a pan at the base of the heater while metals and low volatility compounds remain in the pan and are periodically removed. Another type of heater is the atomization type where the oil is sprayed into the combustion chamber. The vaporization units appear to have low metals emissions rates. As little as 5-15% of the metals are emitted. This is comparable to or lower than the metal emissions rates from larger boilers (industrial and nonindustrial). The atomization units appear to have relatively high metals emissions rates, although it is not clear whether this type of unit poses a significant health risk with respect to metal emissions.

The first condition is imposed to ensure that only those facilities that generate used oil, such as automotive service shops, are eligible to burn used oil in oil-fired space heaters. This will preclude the possibility that

persons who are not used oil generators might purchase these units and purchase off-specification used oil from processors or blenders. The second capacity restriction is imposed to limit the legitimate use of used oil-fired space heaters to those used mainly in automotive service shops. An upper size limit of 0.5 million Btu/hr heat input encompasses all used oil space heaters in use today and prevents operators of larger boilers from claiming they are operating used oil-fired space heaters. Finally, the third requirement to vent the heaters to the out-of-doors, will avoid high indoor concentrations of lead and other toxic compounds. Until EPA has a better knowledge of the risks space heaters pose and promulgates more extensive regulations, these limited requirements are reasonably included in this part. This is equivalent to 40 CFR § 266.44(a) and § 266.41(b).

Item B requires burners of off-specification used oil fuel and burners of on-specification used oil fuel who are the first to claim that the oil meets the specifications provided in subpart 1, item B of this part, to notify EPA and state the location and general description of used oil management activities. This is reasonable for the same reasons identified in subpart 3, item B, subitems (1) and (3).

Burners who meet the criteria in subitems (1), (2) and (3) of Minn. Rules pt. 7045.0695, subp. 4, item B do not have to notify the EPA of used oil management activities. Subitem (1) exempts burners of on-specification used oil fuel who receive the oil from a marketer who has previously notified the EPA. This is reasonable since the marketer will have already notified EPA and obtained analysis proving the oil to be on-specification used oil.

Subitem (2) exempts owners and operators of used oil-fired space heaters who burn used oil fuel in space heaters that meet the criteria set forth in item A, subitem (3). EPA intends to research the risk space heaters pose to

human health and the environment. EPA also intends to evaluate regulatory options for any hazards identified from space heaters. It is reasonable to exempt these owners and operators from the notification requirement to EPA at this time since EPA is seeking additional information on the risks associated with space heaters.

Subitem (3) exempts burners who burn on-specification used oil that they generate from the notification requirement to EPA. If the oil is generated on-site and the burner proves that the oil meets the specifications, it is not necessary for the burner to notify EPA of burning activities since on-specification used oil poses no greater threat to human health and the environment than does virgin fuel oil. The provisions in item B are equivalent to 40 CFR § 266.44(b).

Item C states that before a burner accepts the first shipment of off-specification used oil fuel from a marketer, the burner must provide the marketer with a one-time written and signed notice certifying that: (1) the burner has notified the EPA of the location and general description of the burner's used oil management activities; and (2) the burner will burn the used oil only in an industrial furnace or boiler identified in item A, subitems (1) and (2). The certification requirement is consistent with that for a burner of hazardous waste fuels and is reasonable for the same reasons stated in the discussion of Minn. Rules pt. 7045.0692, subp. 6, item B. This is equivalent to 40 CFR § 266.44(c).

Item D requires a person who generates used oil and who also burns it on-site to comply with the regulations of this subpart, unless the person obtains analysis or other information documenting that the oil is on-specification used oil. As previously discussed, a burner who receives used oil from a marketer is subject to the burner requirements. A person burning

used oil generated on-site presents the same environmental concerns as burners who accept oil from a marketer. Therefore, it is reasonable to impose the same requirements on burners of marketed oil as those imposed on burners who burn oil generated on-site. However, a burner who first claims that used oil generated on-site meets the specifications, is reasonably exempted from the burner requirements. Oil that meets the specifications poses no greater threat to human health or the environment than does virgin oil and need not be regulated as stringently as off-specification used oil. This is equivalent to 40 CFR § 266.44(d).

Item E states, "Burners who process, blend, or otherwise manage off-specification used oil to meet the specifications provided under subpart 1, item B, must obtain analyses or other information documenting that the oil is on-specification used oil." Marketers who conduct the same activity are also required to prove the oil meets the specifications in order for the oil to be marketed as on-specification used oil. Therefore, it is reasonable to require burners of on-specification used oil to also prove the oil they are burning truly meets the specifications if it is intended to be burned in nonindustrial burning devices. This is equivalent to 40 CFR § 266.44(d).

Item F establishes recordkeeping requirements. A burner must retain a copy of the marketer's invoice for three years from the date the invoice is received. The marketer must also keep copies of all analyses of used oil fuel, and a copy of each certification notice that the burner sends to a marketer. These records must be kept for three years from the date the burner last received off-specification used oil fuel from that marketer. The recordkeeping requirements for burners are reasonable since, in conjunction with the records kept by marketers, they establish a way to track used oil from the point of

generation to the point of burning for energy recovery. This is equivalent to 40 CFR § 266.44(e).

Item G states, "Burners must abide by Minnesota and federal air quality regulations, including obtaining a permit if necessary. Compliance with this part does not release a burner from any obligation to comply with local air quality ordinances or codes." The provision is reasonable for the reasons discussed for Minn. Rules pt. 7045.0692, subp. 6, item F.

IV. SMALL BUSINESS CONSIDERATIONS IN RULEMAKING

To comply with Minn. Stat. § 14.115 (1988), the Agency has considered the statutory methods for reducing the impact of the proposed rules on small business. The statute requires that each of the following methods be considered:

1. The establishment of less stringent compliance or reporting requirements;
2. The establishment of less stringent schedules or deadlines for compliance or reporting requirements;
3. The consolidation or simplification of compliance or reporting requirements;
4. The establishment of performance standards for small businesses to replace design or operational standards in the rule; and,
5. The exemption of small businesses from any or all requirements of the rule.

Regarding the first consideration, the Agency does not believe the primary impact of the rules is in reporting requirements. To reduce the reporting requirements, therefore, would not lessen the impact of the result to any beneficial degree. Additionally, the Agency cannot significantly reduce reporting or compliance requirements without jeopardizing its authority to

administer Minnesota's hazardous waste program in lieu of the EPA. Under the federal environmental scheme, the state must be at least as stringent as the EPA in order to establish uniform environmental regulation throughout the country.

The same reasoning applies to the second consideration. The rules focus on waste management rather than on schedules or deadlines, so less stringent schedules or deadlines would not significantly benefit small business. Conversely, less stringent schedules or deadlines could jeopardize state authorization by the EPA.

The third and fourth methods were considered together. Establishing performance standards or simplifying the federal requirements would be a major challenge in light of the requirement that the state rules be as stringent as the federal rules. The federal specifications were based on scientific data. The state simply does not have the resources to duplicate the federal studies with the goal of achieving the same end result through wholly different means.

Additionally, performance standards in the environmental area could impose a tremendous burden on the regulated parties because it could require the regulated party to engineer equipment and to conduct extensive testing to insure particular end results, such as certain emission levels. It is probably easier on the regulated community to require that hazardous waste fuels be burned in certain boilers or furnaces than to allow the fuels to be burned in any device so long as the resultant emission levels are not hazardous to human health and the environment.

The fifth method was rejected because exempting small business from the used oil and hazardous waste fuel rules is contrary to the statutory objective of protecting human health and the environment from the adverse effects of hazardous waste mismanagement. The size of the business may be unrelated to

its used oil or hazardous waste fuel activities. A small business' hazardous wastes can cause the same environmental harm as that of larger businesses. For example, it was a sole proprietor who spread dioxin-contaminated oil on the roads in Times Beach eventually forcing the evacuation and permanent closure of the entire area.

Further, the volume of hazardous waste generated by a business is not directly proportional to the size of the business. Many large businesses generate very small quantities of hazardous waste and, conversely, a small business may generate a very large volume of hazardous waste. Therefore, it may not be reasonable to impose regulations based on the size of the business because this may have little relation to the potential for mismanagement or to the extent of the adverse effects on human health and the environment if the waste is mismanaged.

The MPCA has attempted to involve small business in this rulemaking process through the Used Oil Task Force, and by holding a public meeting, and by publishing a press release and a Notice of Intent to Solicit Outside Opinion. Specifically, marketers of used oil have been instrumental in the development of the rule amendments.

The federal regulations that the Agency is incorporating into its hazardous waste rules are currently in affect federally, except for the exemptions for waste-derived fuels. Therefore these amendments to the state hazardous waste rules will not impose any additional requirements on small businesses that would not already be imposed under the federal program. The Agency believes that these additional regulations are justifiable and do not present an unreasonable burden to small businesses that may be subject to these requirements.

V. CONSIDERATION OF ECONOMIC FACTORS

In exercising its powers, the Agency is required by Minn. Stat. § 116.07, subd. 6 (1988) to give due consideration to economic factors. The statute provides:

In exercising all its powers the Pollution Control Agency shall 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 that may result therefrom, and shall take or provide for such action as may be reasonable, feasible, and practical under the circumstances.

In proposing the amendments, the Agency has given due consideration to available information on any economic impact the proposed amendments would have. The economic impact of the amendments derive primarily from four new requirements: 1) notification requirements for marketers and burners to identify their waste-as-fuel activities; 2) invoice requirements on all shipments of off-specification used oil fuel; 3) certification requirements for marketers and burners; and 4) chemical analysis requirements for marketers who first claim used oil fuel meets the specifications contained in 40 CFR § 266.40.

Used Oil Fuel

Used oil that is recycled by an appropriate method, such as burning for energy recovery, is not regulated as a hazardous waste. Conversely, used oil that is not recycled is a hazardous waste and must be managed accordingly. Persons who generate used oil are more apt to recycle used oil, than to treat it as a hazardous waste.

Therefore, the amendments will have minimal adverse economic impact for persons managing used oil under the used oil fuel regulations contained in Minn. Rules pt. 7045.0695. The costs for notification, the invoice system,

certification, and testing for used oil fuel specifications could amount to an estimated \$3650 per year for fuel sellers and \$600 per year for fuel buyers. (The preceding costs were calculated by EPA. The Agency concurs with these estimated costs. However, they were calculated in 1985 and may now be higher due to inflation and minor market fluctuations. For further information on the calculations, see exhibit 6.) EPA estimates that these costs will not have significant impacts on the used oil fuel market. Used oil fuel will still be an attractive substitute for commercial fuel oil and, in general, sale of used oil fuel will remain a profitable enterprise. However, those establishments that have previously sold used oil fuel to residential, commercial, or institutional boiler owners could be slightly affected because the regulations prohibit off-specification used oil from being burned in nonindustrial burning devices. At this time the Agency does not know of any marketers in Minnesota who are selling on-specification used oil to this restricted market.

There are several restrictions that apply to this specific market:

- 1) used oil mixed with listed hazardous waste cannot be sold to this market;
- 2) used oil fuel with a flashpoint of less than 100 degrees Fahrenheit cannot be sold to the restricted market; and
- 3) used oil fuel sold to the restricted market must have less than specified concentrations of arsenic, cadmium, chromium, total halogens and lead as defined by the specifications.

A marketer who, in the future, would like to sell on-specification used oil to nonindustrial burning devices will have to comply with the requirements set forth in the amendments regarding on-specification used oil. The Agency believes that the additional money gained from selling on-specification used oil versus off-specification used oil, will offset the additional cost of analyzing the oil to prove it meets the specifications and a profit will still be made.

EPA has estimated that a person could incur a cost of about \$4,240 per year for analysis of used oil (Exhibit 6). This cost depends on the frequency of analysis and on the direct cost associated with it. However, the Agency still believes that a profit will be made with little economic impact from the new used oil fuel rules.

Hazardous Waste Fuel

Persons who manage hazardous waste fuel will experience minimum economic impact. Generators, marketers and burners of hazardous waste fuel are subject to existing requirements for this fuel. The only additional provisions placed on marketers and burners are the waste-as-fuel notification, certification and recordkeeping requirements. The costs associated with these requirements are minimal.

Burners of hazardous waste fuel are already subject to the generator, transporter, storage, and facility requirements and to the thermal treatment standards. The additional cost to burners would consist of the cost of certifying to the supplier that the waste will be burned in an approved burning device, in addition to notifying EPA of their waste-as-fuel activities. No new manifest or storage costs would be incurred, because of existing requirements. EPA has estimated that the one-time notification and the certification to the supplier would be approximately \$80 with a recurring cost of \$10 per year for keeping copies of records.

The additional costs for marketers are for notifying EPA of waste-as-fuel activities and keeping records of the certifications received from burners. These costs are estimated to be \$60 (\$50 for notification and \$10 for recordkeeping).

VI. CONCLUSION

The Agency has, in this document and its exhibits, made its presentation of facts establishing the need for and reasonableness of the proposed amendments to Minnesota's hazardous waste rules. This document constitutes the Agency's Statement of Need and Reasonableness for the proposed amendments to the hazardous waste rules.

VII. LIST OF EXHIBITS

The MPCA is relying on the following documents to support these amendments:

Agency Ex. No.	Title
1	<u>Federal Register</u> , Vol. 50, No. 230, pages 49164-49211, November 29, 1985.
2	<u>Federal Register</u> , Vol. 52, No. 70, pages 11819-11822, April 13, 1987.
3	<u>Federal Register</u> , Vol. 50, No. 135, pages 28702-28704, 28718, 28739, 28750, July 15, 1985.
4	<u>Federal Register</u> , Vol. 50, No. 161, pages 33541-33543
5	Stoddard Solvent Concentration <u>vs</u> Flash Point
6	<u>Federal Register</u> , Vol. 50, No. 8, pages 1684-1724, January 11, 1985.

Date: August 11, 1989

for Barbara Bradley Sims
Gerald L. Willet
Commissioner