

The Texas Natural Resource Conservation Commission (commission) proposes an amendment to §113.1 (Definitions), and new §113.2070 (Definitions), §113.2071 (Designated Facilities), §113.2072 (Emission Limits), §113.2074 (Inspection Requirements), §113.2075 (Compliance and Performance Testing Requirements), §113.2076 (Monitoring, Reporting, and Recordkeeping Requirements), §113.2077 (Waste Management Plan), §113.2078, (Operating Procedures and Operator Training/Qualification Requirements), and §113.2079 (Compliance Schedules). The commission proposes these revisions to Chapter 113 (Control of Air Pollution from Toxic Materials); Subchapter A (Definitions); and Subchapter D (Designated Facilities and Pollutants), new Division 2 (Hospital/Medical/Infectious Waste Incinerators) in order to implement the Hospital/Medical/Infectious Waste Incinerator (HMIWI) emission guidelines found in Title 40 Code of Federal Regulations Part 60 (40 CFR 60), Subpart Ce (Emission Guidelines and Compliance Times for Hospital/Medical/Infectious Waste Incinerators) adopted September 15, 1997. The commission also proposes to add a new section II. F. (Plan for Control of Hospital/Medical/Infectious Waste Incinerators) to the Control Strategy chapter of the State Plan for the Control of Designated Facilities and Pollutants (state plan).

#### **BACKGROUND AND SUMMARY OF THE FACTUAL BASIS FOR THE PROPOSED RULES**

The proposed amendment, new sections, and state plan revisions are based on emission guidelines (40 CFR 60, Subpart Ce) published by the United States Environmental Protection Agency (EPA) on September 15, 1997, under the authority of the Federal Clean Air Act (FCAA). A copy of the emission guidelines is available either through the EPA or the commission. The FCAA requires that state regulatory agencies implement the emission guidelines as part of a state plan developed in accordance with the FCAA, 42 United States Code (42 USC), §7411(d) (Standards of Performance for Existing

Sources) and §7429 (Solid Waste Combustion), and that the state regulatory agencies submit that plan to the EPA.

The commission has had regulations controlling emissions from medical waste incinerators since 1990. These regulations are found in Title 30 Texas Administrative Code (30 TAC), Chapter 111 (Control of Air Pollution from Visible Emissions and Particulate Matter), §§111.123, 111.125, 111.127, and 111.129. The emissions controlled in the existing regulations include visible emissions (opacity), particulate matter (PM), hydrogen chloride (HCl), and carbon monoxide (CO) with the level of control for each type of emissions based on the size of the incinerator unit. Under a separate but concurrent rulemaking proposal (Rule Log Number 99012-111-AI), the existing medical waste rules in §111.123 will be repealed. The new rules in Chapter 113, Subchapter D, Division 2, will control emissions from existing hospital/medical/infectious waste incinerators. The emissions to be controlled in the new proposed regulations include opacity, PM, CO, HCl, dioxins/furans, oxides of nitrogen (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), mercury (Hg), lead (Pb), and cadmium (Cd). As with the existing regulations, the level of control for each type of emissions will be based on the size of the incinerator unit. There are four size categories of affected facilities: (1) large, with a charge rate design capacity greater than 500 pounds per hour (lb/hr); (2) medium, with a charge rate design capacity greater than 200 and less than or equal to 500 lb/hr; (3) small, with a charge rate design capacity less than or equal to 200 lb/hr; and (4) small-remote, which is a small unit which combusts less than 2,000 pounds per week and is located greater than 50 miles from the boundary of the nearest metropolitan statistical area (MSA).

The emission guidelines, and these proposed rules do not prescribe one control system over another. The HMIWI owners or operators may choose the actual equipment to retrofit a unit that they believe will achieve the required emissions limits. One control system may be combustion system upgrades, referred to as “good combustion practices.” “Good combustion practices” is referenced in the EPA emission guidelines, but is clarified by definition in the proposed state rules as a two-second residence time in the secondary combustion chamber at 1,800 degrees Fahrenheit. Good combustion practices will adequately control PM, CO, and dioxins/furans for many units. Other control systems include acid gas/PM scrubbing systems, and are typically more expensive than combustion upgrades. These systems will control multiple pollutants including dioxins/furans, PM, Pb, Cd, Hg, and HCl. Most of the existing units will need to install add-on control systems in order to meet all of the emission standards. Units at facilities meeting the small-remote definition may elect to comply emission limits based on the use of good combustion practices alone.

As part of a 1994 EPA grant objective (FY-94-CAAA-VI-123), the commission was required to develop a list of medical waste incinerators (MWI). The commission developed this list through a questionnaire that was sent to all hospitals registered with the Texas Department of Health, medical schools, Veterans Administration hospitals, and various other facilities. The questionnaire was mailed to over 550 locations in June 1995, but the response was only approximately 60%. These lists were also updated with information compiled from existing commission databases and records. The commission identified 75 MWI operating in the state as of 1995, which included 68 on-site MWI units, and forwarded the source inventory data to the EPA in October 1995. The commission also identified, but did not list, an additional 47 MWI previously in existence but which were no longer in operation.

The EPA in turn produced a national source inventory list which included 62 HMIWI in Texas which are potentially affected by these proposed rules.

#### SECTION BY SECTION DISCUSSION

The proposed rules would revise §113.1 by adding definitions for “designated facility” and “designated pollutant” as they are used in 42 USC, §7411(d) and §7429. The existing definition for “Section 111(d) state plan” was revised to clarify the federal requirements as codified in 42 USC, and to specify that the state plan was submitted in accordance with the FCAA.

The proposed new §113.2070 defines terms used in the new division that are either previously undefined or are used differently by the federal emission guidelines that is the basis for the proposed rules. The definitions were taken from 40 CFR §60.31e (Definitions) and include: “biologicals,” “blood products,” “body fluids,” “bypass stack,” “chemotherapeutic waste,” “co-fired combustor/incinerator,” “commercial medical waste incinerator,” “dioxins/furans,” “dry scrubber,” “fabric filter (or baghouse),” “facilities manager,” “good combustion practices,” “high-air phase,” “hospital,” “hospital/medical/infectious waste incinerator (HMIWI) or HMIWI unit,” “batch HMIWI,” “continuous HMIWI,” “intermittent HMIWI,” “large HMIWI,” “medium HMIWI,” “small HMIWI,” “small-remote HMIWI,” “hospital waste,” “infectious agent,” “low-level radioactive waste,” “malfunction,” “maximum charge rate,” “maximum design waste burning capacity,” “maximum fabric filter inlet temperature,” “maximum flue gas temperature,” “medical waste,” “medical/infectious waste,” “minimum sorbent flow rate,” “minimum wet scrubber parameters,” “minimum secondary chamber temperature,” “modification (or modified incinerator),” “operating day,” “operation,”

“particulate matter,” “pathological waste,” “primary chamber,” “pyrolysis,” “shutdown,” “standard conditions,” “startup,” “toxic equivalent quantity (TEQ),” and “wet scrubber.”

The proposed §113.2071 specifies those designated facilities to which these proposed rules apply, which are any facilities with existing HMIWI units for which construction was commenced on or before June 20, 1996. Section 113.2071 also lists those HMIWI units that are not subject to the control requirements, which include combustors during periods when burning only pathological waste, low-level radioactive waste, and/or chemotherapeutic waste; co-fired combustors; combustors required to have a permit under the Solid Waste Disposal Act, §3005; combustors meeting the applicability requirements under 40 CFR 60, Subparts Cb, Ea, or Eb (Municipal Waste Combustors); pyrolysis units; and cement kilns firing hospital waste and/or medical/infectious waste. The proposed §113.2071 also states that any physical or operational changes made to an existing HMIWI solely for the purpose of complying with the requirements of these proposed rules are not considered to be a modification as defined in 40 CFR 60, Subpart Ec (Standards of Performance for Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced after June 20, 1996) and do not result in an existing HMIWI unit becoming subject to the provisions of Subpart Ec.

The proposed new §113.2072 establishes emissions limits for all designated facilities, which are based on the sizes of the affected facilities. The limits are applied to emissions of PM, CO, dioxins/furans, HCl, SO<sub>2</sub>, NO<sub>x</sub>, Pb, Hg, and Cd. The proposed section also specifies a limit for opacity of 5.0%. The EPA emission guidelines suggest an opacity requirement of 10%, however, the existing commission

rules specify an opacity limit of 5.0%. The proposed section also requires affected units to file an abbreviated federal operating permit application with the executive director.

The proposed new §113.2074 specifies inspection requirements on those small HMIWI units that can meet the small-remote criteria. These small-remote units are not required to install add-on controls to meet the emission limits, but rather are required to implement good combustion practices. These practices are verified through the inspection requirements and are maintained by a repair timeline of ten days after an equipment inspection.

The proposed new §113.2075 specifies the performance testing (stack test) requirements for all affected units. The stack tests are to be performed annually for a period of three years, after which they may be performed every third year. Any portion of the stack test that is failed must return to the annual schedule until it passes another three consecutive years. The proposed section also requires that units with scrubbers must establish maximum and minimum operating parameters for each control system during the initial performance test to determine compliance with the emission limits. Operation outside of these parameters shall constitute violations of the applicable emission standards. Finally, small-remote units are required to perform an initial stack test to determine operating parameters for maximum charge rate and minimum secondary chamber temperature, which are subsequently used to determine ongoing compliance with the emission standards.

The proposed new §113.2076 specified the monitoring, reporting, and recordkeeping requirements for the affected units. The units are required to have suitable equipment to monitor and record the

operating parameters developed during the stack tests. The small-remote units are only required to install and operate a device for measuring and recording the temperature of the secondary chamber on a continuous basis, and a device which automatically measures and records the date, time, and weight of each charge fed into the HMIWI unit.

The proposed new §113.2077 requires each affected facility to prepare a waste management plan in order to reduce the amount of toxic emissions from incinerated waste. This plan shall identify the feasibility and the approach to separate certain components of the solid waste stream from the health care waste stream.

The proposed new §113.2078 specifies the operating procedures and operator training/qualification requirements for the affected facilities. Each owner or operator shall document their operating procedures and maintain those procedures in a readily accessible location for all HMIWI operators. These procedures shall be reviewed annually. In addition, no owner or operator shall allow the affected facility to operate at any time unless a fully trained and qualified HMIWI operator is accessible. The proposed section also specifies the minimum requirements for operator training.

The proposed §113.2079 specifies the schedules for affected facilities to come into compliance with these proposed rules. Within 60 days from the date the commission publishes in the *Texas Register* that the EPA has approved these rules and state plan, owners or operators shall submit a notice of intent to comply with these rules, a petition for a compliance extension, or a notice of intent to shut down the incinerator. All affected HMIWI units must be in compliance with the rules or shut down within one

year after the EPA has approved these rules and state plan, unless they have been granted a compliance or shutdown extension. In no case shall any affected facility delay compliance or shut down past September 15, 2002. Finally, this proposed section specifies that any HMIWI unit subject to the requirements of the federal operating permits program shall submit an abbreviated application to the executive director on or before September 15, 2000.

#### FISCAL NOTE

Bob Orozco, Technical Specialist in the Strategic Planning and Appropriations Section, has determined that for the first five-year period the proposed amendments to Chapter 113 are in effect, there could be significant fiscal implications for certain units of state and local government that own or operate on-site incinerators to dispose of hospital waste and/or medical/infectious waste as a result of administration or enforcement of the proposed amendments.

The EPA has published new source performance standards (NSPS) for several types of facilities including HMIWI. HMIWI built or modified before June 20, 1996 are not required to meet the NSPS control requirements, however, these facilities are required to meet certain emission limits in accordance with EPA emission guidelines. If a state does not adopt rules for existing HMIWI, in accordance with the EPA approved emission limits, then EPA is required to establish federal rules for these facilities. Affected facilities in Texas will be required to comply with EPA approved emission limits whether they are promulgated by Texas rules or by federal regulation.

The emission limits in the proposed amendments are based on the emission guidelines published by the EPA under the authority of 42 USC, §7411(d) and §7429. The purpose of the proposed amendments is to implement emission limits for existing HMIWI units in accordance with federal guidelines and regulations. The commission also proposes to add a new section, Plan for Control of Hospital/Medical/Infectious Waste Incinerators, to the Control Strategy chapter of the state plan.

Current medical waste incinerator rules in Chapter 111 include standards for opacity, PM, HCl, and CO with the level of control for each type of emission based on the size of the incinerator unit. In a separate but concurrent rulemaking, the existing medical waste incinerator rules in Chapter 111 are proposed to be repealed and replaced by the proposed HMIWI amendments to Chapter 113. The proposed amendments will establish limits for control of emissions from existing HMIWI for opacity, PM, CO, HCl, dioxins/furans, NO<sub>x</sub>, SO<sub>2</sub>, Hg, Pb, and Cd. The level of control for each type of emission is proposed to be based on the size of the incinerator unit. There are four size categories of affected facilities: (1) large, with a charge rate design capacity greater than 500 lb/hr; (2) medium, with a charge rate design capacity greater than 200 and less than or equal to 500 lb/hr; (3) small, with a charge rate design capacity less than or equal to 200 lb/hr; and (4) small-remote, which is small unit which combusts less than 2,000 pounds per week and is located greater than 50 miles from the boundary of the nearest MSA. The commission estimates that approximately 101 operating HMIWI in Texas will be affected by the proposed amendments. These incinerators are in the large, medium, or small categories with one incinerator in Ochiltree County possibly in the small-remote category. The commission anticipates that affected incinerators not currently equipped with add-on control equipment

will need to add control equipment including dry and/or wet scrubbers in order to meet all the proposed emission standards.

The emission guidelines found in federal regulations are performance standards and do not prescribe any particular control system. HMIWI owners or operators will be able to choose the actual equipment to retrofit a unit to achieve the required emission limits. In addition, all HMIWI facilities, except those in the small-remote category, will need to conduct annual stack testing for at least the first three years, install suitable monitoring equipment, train and qualify their operators, keep records, and make reports to the commission. While similar requirements exist in the current rules, the proposed requirements are generally more stringent. Where stack testing is currently accomplished on demand, it is proposed to be an annual check. In the current rules, HWI that burn less than 100 lb/hr of waste require continuous temperature monitors; HWI that burn up to 225 lb/hr of waste require continuous temperature and oxygen monitoring; and HWI that burn over 225 lb/hr of waste require continuous temperature, oxygen, and carbon monoxide monitoring. The proposed amendments will require continuous emissions monitoring systems (CEMS) on all affected units except those in the small-remote category. Incinerators in the small-remote category are only required to maintain “good combustion practices” which is defined as a two-second residence time in the secondary chamber at 1,800 degrees Fahrenheit. In current rules, continuous recordkeeping is required with reporting on request. The proposed amendments will require recording monitoring data at all times during HMIWI operation and making data available to the commission, the EPA, or local air pollution control agencies on request.

The proposed amendments specify that within 60 days from the date the commission publishes EPA approval of the proposed rules and the proposed state plan in the *Texas Register*, owners or operators of HMIWI will be required to submit a notice of intent to comply with the proposed rules, a petition for a compliance extension, or a notice of intent to shut down the existing incinerator. All affected HMIWI units will be required to be in compliance with the proposed rules or shut down with one year after EPA has approved these proposed rules, unless they have been granted a compliance or shutdown extension. The proposed amendments also specify that in no case shall any affected facility delay compliance or shut down past September 15, 2002. The proposed amendments specify that any HMIWI unit subject to the requirements of the federal operating permits program shall submit an abbreviated application to the executive director no later than September 15, 2000.

#### PUBLIC BENEFIT

Mr. Orozco has also determined that for each year of the first five years the proposed amendments to Chapter 113 are in effect, the public benefit anticipated from enforcement of and compliance with the proposed amendments will be a reduction in the emission of hazardous air pollutants, increased consistency between federal and state air quality regulations, the accompanying reduced risks to human health and safety from a reduction of emission of hazardous air pollutants, and conformance with EPA emission guidelines as required by the FCAA.

The commission estimates that approximately 101 HMIWI in Texas, built prior to June 20, 1996, will be affected directly by the proposed amendments. In addition, other sources of medical waste, without on-site incinerators, may also be indirectly affected because the proposed amendments may cause

commercial and other off-site medical waste disposal costs to increase in order for the owner or operator of the incinerator to recover costs associated with emission control technologies that must be added to the existing incinerators. Cost data and estimates of Texas medical waste facilities for this fiscal note was obtained or derived from an EPA publication titled *Hospital/Medical/Infectious Waste Incinerators: Background Information for Promulgated Standards and Guidelines - Regulatory Impact Analysis for New and Existing Facilities*, EPA-453/R-97-009b, July 1997. The following table indicates the industries and numbers of affected medical waste facilities estimated by the EPA on a national scale and the estimated numbers of affected medical waste sources in Texas as well as the number of affected HMIWI on a national scale from the EPA study and the approximate number of HMIWI in Texas. The estimated number of Texas facilities indicated on the following table assumes that the proportion of Texas active HMIWI to the number of HMIWI that the EPA estimated nationally is proportional to Texas medical waste sources to nationwide sources of medial waste. If this assumption is valid, Texas has approximately 16,000 facilities that dispose of medical waste and approximately 101 of those Texas facilities have an existing, operating HMIWI.

Figure 1: 30 TAC Chapter 113 - Preamble

<b>INDUSTRY</b>	<b>NUMBER</b>	<b>PERCENT</b>	<b>TEXAS</b>
Hospital	6,601	1.6%	252
Nursing Homes	20,879	5.0%	798
Laboratories			
Commercial Research	4,170	1.0%	159
Medical/Dental	15,961	3.8%	610
Funeral Homes	22,000	5.3%	840
Physician Offices	192,965	46.4%	7,371
Dentist Offices	108,919	26.2%	4,180
Outpatient Care	9,238	2.2%	353
Blood Banks	218	0.1%	8
Fire and Rescue	29,840	7.2%	1,140
Correctional Facilities	4,591	1.1%	175
Commercial Incineration	79	0.0%	3
<b>TOTAL</b>	<b>415,461</b>	<b>100.0%</b>	<b>15,869</b>
<b>HMIWI SITES</b>	<b>NUMBER</b>	<b>PERCENT</b>	<b>TEXAS</b>
Small	1,224	46.8%	68
Medium	782	29.9%	15
Large	523	20.0%	14
Commercial	89	3.4%	4
<b>TOTAL</b>	<b>2,618</b>	<b>100.0%</b>	<b>101</b>

The fiscal implications associated with retrofitting existing HMIWI are anticipated to be significant.

The emission guidelines found in federal regulations are performance standards which do not prescribe one control system over another. The HMIWI owners and operators may choose the actual equipment to retrofit a unit that they believe will achieve the required emissions limits. One control system may be combustion system upgrades, referred to as “good combustion practices.” It is anticipated that good combustion practices will adequately control PM, CO, and dioxins/furans for many units. Other control systems may include acid gas/PM scrubbing systems that are typically more expensive than combustion upgrades. These systems will control multiple pollutants including dioxins/furans, PM, Pb, Cd, Hg, and HCl. It is anticipated that most of the existing units will need to install add-on control systems in order to meet all the emission standards.

Cost data for this fiscal note was obtained from the previously noted EPA publication concerning HMIWI, EPA-453/R-97-009b, July 1997. In this study, EPA determined that the emission control technologies for existing HMIWI would probably need to meet regulations based on the new maximum achievable control technology (MACT) floor emission limits. The floor emission limits for small existing HMIWI require good combustion practices, but add-on wet scrubbing systems would not be necessary to meet the MACT floor. For medium existing HMIWI, the MACT floor requires good combustion practices and a moderate efficiency wet scrubber. The MACT floor for large existing HMIWI requires good combustion practices and a high efficiency wet scrubber. In the analysis of costs in the EPA report, selection of an alternative form of medical waste treatment and disposal by a health care facility, rather than installing a new HMIWI, is referred to as “switching.”

Three scenarios were developed to indicate the additional costs associated with compliance with the proposed amendments. Scenario A ignores switching and assumes that each existing HMIWI will comply with the appropriate regulatory limits by having emission control equipment installed on the incinerator. This scenario most likely overstates costs and therefore should not be viewed as representative of the costs to comply with the proposed standards. It is provided only to fulfill the goal of providing a complete analysis. Scenario B assumes switching occurs and the medical waste stream is separated or segregated into an infectious stream and a non-infectious stream. Scenario C also assumes switching occurs, but the medical waste stream is not segregated.

The following chart from the EPA study indicates the Scenario A annualized control costs for existing on-site HMIWI with no switching. If all of the estimated 101 facilities in Texas with on-site HMIWI modify their incinerators and do not switch to an alternative means of medical waste disposal, the statewide cost are estimated to be in the range of approximately \$4.8 million to \$10.5 million.

Figure 2: 30 TAC Chapter 113 - Preamble

<b>ON SITE-HMIWI - NO SWITCHING</b>			
<b>HMIWI SIZE</b>	<b>LOW</b>	<b>HIGH</b>	<b>TEXAS HMIWI</b>
Small	\$20,325	\$87,802	68
Medium	\$87,494	\$98,794	15
Large	\$152,494	\$152,494	14
Commercial	\$0	\$227,536	4
<b>TOTAL</b>			<b>101</b>

Scenarios B and C are considered more representative of the cost of MACT for existing HMIWI. Both scenarios assume switching occurs when the cost associated with purchasing and installing the air pollution control technology or systems necessary to comply with MACT emission standards is greater than the cost of using an alternative means of treatment and disposal or switching. The difference between scenarios B and C is the assumption of whether or not the medical waste stream is separated or segregated into an infectious stream and a non-infectious stream. Based on EPA estimates only 10% to 15% of medical waste is infectious and the remaining 85% to 90% is non-infectious. Scenario B assumes that only 15% of the waste currently being burned at a health care facility operating an on-site incinerator is infectious medical waste; the remaining 85% is non-infectious medical waste. The non-infectious medical waste is assumed to be municipal waste; it needs no special handling, treatment, transportation, or disposal, and can be sent to a municipal landfill or a municipal combustor for disposal. Scenario B results in the lowest costs because 85% of the waste is disposed of as municipal waste. Alternatively, it is unlikely that all health care facilities will be able to, or will decide to, segregate their waste streams into infectious and non-infectious waste streams. Scenario C, therefore, assumes that all medical waste that would be burned at a health care facility with an on-site medical waste incinerator is infectious and must be treated and disposed of accordingly.

The following chart from the EPA study indicates Scenarios B and C annualized control costs for existing on-site HMIWI with switching and with and without segregation of waste. The EPA estimates that 65% to 80% of the facilities with existing on-site incinerators will switch to off-site/commercial incineration or switch to an alternate disposal method. For the purpose of estimating costs the commission staff chose 75%, an estimate between the EPA 65% to 80% estimate, as the number of the

facilities in Texas with on-site incinerators which will switch to alternative medical waste disposal.

Based on the estimated 101 facilities in Texas with on-site HMIWI, of the various sizes indicated in the following table, it is estimated that with switching, the total annual fiscal impact for this part of the industry is approximately \$2 million if they segregate their waste and approximately \$11.7 million if they do not segregate their waste.

Figure 3: 30 TAC Chapter 113 - Preamble

<b>ON SITE-HMIWI - WITH SWITCHING</b>			
<b>HMIWI SIZE</b>	<b>WITH SEGREGATION OF WASTE Scenario B</b>	<b>WITHOUT SEGREGATION OF WASTE Scenario C</b>	<b>TEXAS HMIWI Non-Commercial</b>
Small	\$5,260	\$31,200	68
Medium	\$19,944	\$118,300	15
Large	\$93,584	\$555,100	14

The EPA study indicated that on an annualized basis, the additional cost associated with compliance with the proposed emission limits for individual medical waste sources not operating on-site HMIWI was not significant for most facilities. Facilities with incremental annual costs in excess of \$1,000 were hospitals with over 100 beds, commercial research laboratories with 100 or more employees, and freestanding blood banks. The incremental annual cost for hospitals with 100 to 299 beds was in a range of \$657 to \$2,616. A hospital with 300 or more beds had incremental annual costs of \$2,111 to \$8,404. Commercial research laboratories with over 100 employees had additional annual costs from

\$309 to \$1,231. Freestanding blood banks had estimated incremental annual costs of \$284 to \$1,129.

Most of the other sources of medical waste had incremental annual costs below \$200 per year.

Based on the estimated 16,000 facilities in Texas with no operating on-site HMIWI, it is estimated that the total annual fiscal impact for this part of the industry is in the range of approximately \$68,000 to \$2.7 million. Variation in costs depended on the amount of medical waste to be processed and the current status and retrofit required by the processing incinerator.

#### SMALL BUSINESS AND MICRO-BUSINESS ANALYSES

There could be significant fiscal implications for certain small businesses and micro-businesses with existing on-site HMIWI as a direct result of implementation and enforcement of the proposed amendments to Chapter 113. There could also be indirect fiscal implications for certain small and micro-businesses that use commercial or other alternative means of disposing of their medical waste.

It is anticipated that small or micro-businesses with existing on-site HMIWI, built prior to June 20, 1996, will be affected directly by the proposed amendments and the fiscal implications could be significant.

The FCAA requires states to set emission limits for existing HMIWI based on EPA-developed emission guidelines. If a state does not adopt rules for existing HMIWI with EPA-approved emission limits, then the EPA is required to establish federal rules for those existing facilities. The affected facilities in Texas will be required to comply with EPA-approved emission limits whether they are promulgated by

Texas rules or federal regulations. While this fiscal note assumes that costs are attributable to this rule, it should be recognized that federal guidelines and regulations require states to establish emission limits and affected facilities must comply with these emission limits whether the standards are established by the commission or by the EPA.

The emission limits in the proposed amendments are based on the emission guidelines published by the EPA. The purpose of the proposed amendments is to implement emission limits for existing HMIWI units in accordance with federal guidelines and regulations in 40 CFR 60, Subpart Ce. The commission also proposes to add a new section to the Control Strategy chapter of the state plan.

Current MWI rules in Chapter 111 include standards for opacity, PM, HCl, and CO with the level of control for each type of emission based on the size of the incinerator unit. In a separate but concurrent rulemaking, the existing MWI rules in Chapter 111 are proposed to be repealed and replaced by the proposed HMIWI amendments to Chapter 113. The proposed amendments will establish limits for control of emissions from existing HMIWI for opacity, PM, CO, HCl, dioxins/furans, NO<sub>x</sub>, SO<sub>2</sub>, Hg, Pb, and Cd. The level of control for each type of emission will be based on the size of the incinerator unit rather than on the size of the business.

The fiscal implications associated with retrofitting existing HMIWI are anticipated to be significant. The emission guidelines found in federal regulations are performance standards. The standards do not prescribe one control system over another. HMIWI owners or operators may choose the actual equipment to retrofit a unit that they believe will achieve the required emissions limits. One control

system may be combustion system upgrades, referred to as “good combustion practices.” It is anticipated that good combustion practices will adequately control PM, CO, and dioxins/furans for many units. Other control systems may include acid gas/PM scrubbing systems, and are typically more expensive than combustion upgrades. These systems will control multiple pollutants including dioxins/furans, PM, Pb, Cd, Hg, and HCl. It is anticipated that most of the existing units will need to install add-on control systems in order to meet all the emission standards.

The EPA study noted in the PUBLIC BENEFIT section of this preamble indicates that for small urban or rural facilities with on-site HMIWI and no switching, the annualized cost of modifying their facility was in the range of \$20,000 to \$87,000 depending on whether the facility requires only good combustion practices through various scenarios including good combustion practices in concert with low or moderate efficiency wet scrubbers to good combustion practices and high efficiency wet scrubbers.

If all of the estimated 68 small facilities in Texas with on-site HMIWI modify their incinerators and do not switch to an alternative means of medical waste disposal, the statewide cost is estimated to be in the range of approximately \$1.4 million to \$6 million. Scenario A ignores switching and assumes that each existing HMIWI will comply with the appropriate regulatory limits by having emission control equipment installed on the incinerator. This scenario most likely overstates costs and therefore should not be viewed as representative of the costs to comply with the proposed standards. It is provided only to fulfill the goal of providing a complete analysis.

Scenarios where switching takes place are considered to be more representative of the cost of associated with the proposed amendments. Scenario B assumes switching occurs when the cost associated with purchasing and installing the air pollution control technology or systems necessary to comply with emission standards is greater than the cost of using an alternative means of treatment and disposal or switching. The difference between scenarios B and C is the assumption of whether or not the medical waste stream is separated or segregated into an infectious stream and a non-infectious stream. Based on estimates only 10% to 15% of medical waste is infectious and the remaining 85% to 90% is non-infectious. Scenario B assumes that only 15% of the waste currently being burned at a health care facility operating an on-site incinerator is infectious medical waste; the remaining 85% is non-infectious medical waste. The non-infectious medical waste is assumed to be municipal waste; it needs no special handling, treatment, transportation, or disposal, and can be sent to a municipal landfill or a municipal combustor for disposal. Scenario B results in the lowest costs because 85% of the waste is disposed as municipal waste. Alternatively, it is unlikely that all health care facilities will be able to, or will decide to, segregate their waste streams into infectious and non-infectious waste streams. Scenario C, therefore, assumes that all medical waste that would be burned at a health care facility with an on-site medical waste incinerator is infectious and must be treated and disposed of accordingly.

For small urban facilities, the EPA model indicated that the incremental annual cost with switching and with waste segregation was approximately \$5,260 and \$19,200, if waste was not segregated. Small rural facility incremental annual cost with switching and waste segregation was approximately \$7,400 and \$31,200, if waste was not segregated.

The EPA estimates that 65% to 80% of the facilities with existing on-site incinerators will switch to off-site/commercial incineration or switch to an alternate disposal method. The commission staff estimates that approximately 75% of the facilities in Texas with on-site incinerators will switch to alternative medical waste disposal. Based on the estimated 68 small facilities in Texas with on-site HMIWI, it is estimated that the total annual fiscal impact for this part of the industry is approximately \$358,000, if they segregate their waste and approximately \$2.1 million if they do not segregate their waste.

Sources of medical waste, without on-site incinerators may be indirectly affected because the proposed amendments may cause commercial and other off-site medical waste disposal costs to increase in order for the owner or operator of the incinerator to recover costs associated with emission control technologies which must be added to the existing incinerators. The EPA study indicated that on an annualized basis, the additional cost associated with compliance with the proposed emission limits for small medical waste sources with no operating on-site HMIWI was not significant and varied considerably depending on the amount of medical waste to be disposed of and the current status and retrofit required by the processing incinerator. For example, the EPA study indicates that hospitals, not operating on-site HMIWI, with less than 50 beds will have incremental annual costs in the range of approximately \$123 to \$490 as a result of the proposed amendments. Likewise, nursing homes with less than 100 employees will have incremental annual costs in the range of approximately \$2.00 to \$52; commercial research laboratories with less than 100 employees will have incremental annual costs in the range of approximately \$4.00 to \$110; and physician offices, dental offices and clinics, funeral homes, correctional facilities, and fire and rescue facilities are likewise anticipated to have incremental annual costs in the range of approximately \$1.00 to \$85.

#### DRAFT REGULATORY IMPACT ANALYSIS

The commission has reviewed the proposed rulemaking in light of the regulatory analysis requirements of Texas Government Code, §2001.0225, and has determined that the rulemaking could meet the definition of a “major environmental rule” as defined in that statute. “Major environmental rule” means a rule the specific intent of which is to protect the environment or reduce risks to human health from environmental exposure and that may adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state. The specific intent of the proposed amendments is to implement emission limits for existing HMIWI in accordance with federal guidelines and regulations under the FCAA. Certain HMIWI will be affected and will be required to comply with federal standards/guidelines whether or not the commission adopts the proposed amendments. The proposed amendments to Chapter 113 are not anticipated to add any significant additional costs to affected individuals or businesses beyond the requirements which will be implemented if the proposed amendments are not adopted. The proposed rules are intended to protect the environment and could have a material adverse effect on the economy, a sector of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state. However, Texas Government Code, §2001.0225, only applies to a major environmental rule, the result of which is to: (1) exceed a standard set by federal law, unless the rule is specifically required by state law; (2) exceed an express requirement of state law, unless the rule is specifically required by federal law; (3) exceed a requirement of a delegation agreement or contract between the state and an agency or representative of the federal government to implement a state and federal program; or (4) adopt a rule solely under the general powers of the agency instead of under a specific state law.

The proposed amendments do not meet any of these four applicability requirements of a “major environmental rule.” Specifically, the emission standards within this proposal are based on federal performance-based guidelines/standards. In the proposed amendments, none of the standards exceed any standard set by federal law. This proposal is not an express requirement of state law, but was developed based on the EPA’s *Emission Guidelines and Compliance Times for Hospital/Medical/Infectious Waste Incinerators* as mandated by the FCAA. If the commission does not adopt emission limits with EPA-approved emission limits within a specified time frame, then the EPA is required to adopt federal rules for those existing facilities. The affected facilities will be required to comply with EPA-approved emission limits whether they are promulgated by commission rules or by federal regulations. The proposed amendments do not exceed a requirement of a delegation agreement or a contract between state and federal government. The proposed amendments were not developed solely under the general powers of the agency, but are proposed under the authority of the FCAA. The commission invites public comment on the draft regulatory impact analysis.

#### TAKINGS IMPACT ASSESSMENT

The commission has prepared a takings impact assessment for these rules in accordance with to Texas Government Code, §2007.043. The following is a summary of that assessment. On September 15, 1997, the EPA adopted emission guidelines for existing HMIWI units and new source performance standards for new HMIWI units. The FCAA requires that state regulatory agencies implement the emission guidelines according to a state plan developed in accordance with the FCAA, 42 USC, §7411(d) and §7429, and submit that plan to the EPA. The specific purpose of the rulemaking is to implement the emission guidelines for existing HMIWI units in accordance with 42 USC, §7411(d) and

§7429, by the development and submittal of rules and a corresponding state plan to the EPA. These proposed rules and corresponding state plan satisfy the federal requirement, therefore, the exemption that applies to these rules is that of an action reasonably taken to fulfill an obligation mandated by federal law. Therefore, this revision will not constitute a takings under Chapter 2007 of the Texas Government Code.

#### COASTAL MANAGEMENT PROGRAM CONSISTENCY REVIEW

The commission has determined that the proposed rulemaking relates to an action or actions subject to the Texas Coastal Management Program (CMP) in accordance with the Coastal Coordination Act of 1991, as amended (Texas Natural Resources Code, §§33.201 et seq.), and the commission's rules in 30 TAC Chapter 281, Subchapter B, concerning Consistency with the Coastal Management Program. As required by 31 TAC §505.11(b)(2) and 30 TAC §281.45(a)(3), relating to actions and rules subject to the CMP, commission rules governing air pollutant emissions must be consistent with the applicable goals and policies of the CMP. The commission has reviewed this proposed action for consistency with the CMP goals and policies in accordance with the rules of the Coastal Coordination Council, and has determined that the proposed action is consistent with the applicable CMP goals and policies. The CMP goal applicable to this rulemaking action is the goal (31 TAC §501.12(l)) to protect, preserve, restore, and enhance the diversity, quality, quantity, functions, and values of the coastal natural resource areas. The CMP policy applicable to this rulemaking action is the policy (31 TAC §501.14(q)) that commission rules comply with federal regulations in 40 CFR to protect and enhance the air quality in the coastal area. The effect of the proposed rules will be to implement state rules which are as strict as the minimum emission guidelines found in 40 CFR 60, Subpart Ce. No new

sources of air contaminants will be authorized and emissions from existing HMIWI units will be significantly reduced as a result of these proposed rules. Therefore, in compliance with 31 TAC §505.22(e), this rulemaking is consistent with the CMP goals and policies.

Interested persons may submit comments on the consistency of the proposed rules with the CMP during the public comment period.

#### PUBLIC HEARING

A public hearing on this proposal will be held in Austin on March 21, 2000 at 2:00 p.m. in Building F, Room 2210 at the Texas Natural Resource Conservation Commission Complex, located at 12100 Park 35 Circle. Individuals may present oral statements when called upon in order of registration. Open discussion will not occur during the hearing; however, an agency staff member will be available to discuss the proposal 30 minutes before the hearings and will answer questions before and after the hearing.

Persons with disabilities who have special communication or other accommodation needs, who are planning to attend the hearing, should contact the Office of Environmental Policy, Analysis, and Assessment at (512) 239-4900. Requests should be made as far in advance as possible.

#### SUBMITTAL OF COMMENTS

Written comments may be submitted to Ms. Lola Brown, Office of Environmental Policy, Analysis, and Assessment, MC 205, P.O. Box 13087, Austin, Texas 78711-3087 or faxed to (512) 239-4808.

All comments should reference Rule Log Number 1998-012-113-AI. Comments must be received by 5:00 p.m., March 27, 2000. For further information, please contact Mr. Alan Henderson, (512) 239-1510.

#### STATUTORY AUTHORITY

The amendment is proposed under the Texas Health and Safety Code, Texas Clean Air Act (TCAA), §382.011, which provides the commission the authority to control the quality of the state's air; §382.012, which provides the commission the authority to prepare and develop a general, comprehensive plan for the control of the state's air; §382.014, which provides the commission the authority to require the submission of emissions data for an emissions inventory; §382.016, which provides the commission the authority to prescribe reasonable requirements for measuring, monitoring, and recording emissions; §382.017, which provides the commission the authority to adopt rules consistent with the policy and purposes of the TCAA; §382.0195 which provides the commission the authority to prescribe control technology for infectious waste incinerators; §382.021, which provides the commission the authority to prescribe sampling methods and procedures; and FCAA, 42 USC, §7411(d) and §7429, which require the state to implement emission guidelines as part of a state plan.

The amendment implements TCAA, §382.011, relating to General Powers and Duties; §382.012, relating to State Air Control Plan; and 42 USC, §7411(d), relating to Standards of Performance for Existing Sources and §7429, relating to Solid Waste Combustion.

## SUBCHAPTER A: DEFINITIONS

### §113.1

#### §113.1. Definitions.

The words and terms of this subchapter have the meanings assigned to them in the TCAA [Texas Clean Air Act (TCAA)]. If no meanings are assigned to them by the TCAA, they shall have the meanings ascribed to them by this section. If a word or term of this subchapter is not defined either in the TCAA or this section, they will have the meaning commonly ascribed to them in the field of air pollution control.

**(1) Designated facility** - Any existing facility which emits a designated pollutant and which would be subject to a standard of performance for that pollutant if the existing facility were an affected facility.

**(2) Designated pollutant** - Any air pollutant, the emissions of which are subject to a standard of performance for new stationary sources, but for which air quality criteria have not been issued, and which is not included on a list published under the FCAA, 42 United States Code, §7408(a) or §7412(b)(1)(A).

**(3) Section 111(d) state plan** - A plan submitted by the state, in accordance with the FCAA, 42 United States Code (USC), §7411(d), to the EPA Administrator which establishes standards of performance for any existing source for any air pollutant for which air quality criteria have not been

issued or which is not included on a list published under FCAA, 42 USC, §7408(a) [§108(a)], or emitted from a source category which is regulated under FCAA, 42 USC, §7412 or §7412(b) [§112 or §112(b)], but to which a standard of performance under FCAA, 42 USC, §7411 [§111] would apply if such existing source were a new source, and provides for the implementation and enforcement of such standards of performance.

**SUBCHAPTER D : DESIGNATED FACILITIES AND POLLUTANTS**

**{FCAA, 42 U.S.C. §7411(d) and §7429}**

**DIVISION 2. HOSPITAL/MEDICAL/INFECTIOUS WASTE INCINERATORS**

**§§113.2070 - 113.2072, 113.2074 - 113.2079**

**STATUTORY AUTHORITY**

The new sections are proposed under the Texas Health and Safety Code, Texas Clean Air Act (TCAA), §382.011, which provides the commission the authority to control the quality of the state's air; §382.012, which provides the commission the authority to prepare and develop a general, comprehensive plan for the control of the state's air; §382.014, which provides the commission the authority to require the submission of emissions data for an emissions inventory; §382.016, which provides the commission the authority to prescribe reasonable requirements for measuring, monitoring, and recording emissions; §382.017, which provides the commission the authority to adopt rules consistent with the policy and purposes of the TCAA; §382.0195 which provides the commission the authority to prescribe control technology for commercial infectious waste incinerators; §382.021, which provides the commission the authority to prescribe sampling methods and procedures; and Federal Clean Air Act (FCAA), 42 United States Code (USC), §7411(d) and §7429, which require the state to implement emission guidelines as part of a state plan.

The new sections implement TCAA, §382.011, relating to General Powers and Duties; §382.012, relating to State Air Control Plan; and 42 USC, §7411(d), relating to Standards of Performance for Existing Sources and §7429, relating to Solid Waste Combustion.

**§113.2070. Definitions.**

Unless specifically defined in the TCAA or in the rules of the commission, the terms used in this division have the meanings commonly ascribed to them in the field of air pollution control. In addition to the terms which are defined in the TCAA, §101.1 of this title (relating to Definitions), and §113.1 of this title (relating to Definitions), the following words and terms, when used in this division, shall have the following meanings, unless the context clearly indicates otherwise.

(1) **Biologicals** - Preparations made from living organisms and their products, including vaccines, cultures, etc., intended for use in diagnosing, immunizing, or treating humans or animals or in research pertaining thereto.

(2) **Blood products** - Any product derived from human blood including, but not limited to, blood plasma, platelets, red or white blood corpuscles, and other derived licensed products, such as interferon, etc.

(3) **Body fluids** - Liquid emanating or derived from humans and limited to blood, dialysate, amniotic, cerebrospinal, synovial, pleural, peritoneal and pericardial fluids; and semen and vaginal secretions.

(4) **Bypass stack** - A device used for discharging combustion gases to avoid severe damage to the air pollution control device or other equipment.

(5) **Chemotherapeutic waste** - Waste material resulting from the production or use of antineoplastic agents used for the purpose of stopping or reversing the growth of malignant cells.

(6) **Co-fired combustor/incinerator** - A unit combusting hospital waste and/or medical/infectious waste with other fuels or wastes (e.g., coal, municipal solid waste) and subject to an enforceable requirement limiting the unit to combusting a fuel feed stream, 10% or less of the weight of which is comprised, in aggregate, of hospital waste and medical/infectious waste as measured on a calendar quarter basis. For the purposes of this definition, pathological waste, chemotherapeutic waste, and low-level radioactive waste are considered “other” wastes when calculating the percentage of hospital waste and medical/infectious waste combusted.

(7) **Commercial medical waste incinerator** - A facility that accepts for incineration medical waste generated outside the property boundaries of the facility.

(8) **Dioxins/furans** - The combined emissions of tetra- through octa-chlorinated dibenzi-para-dioxins and dibenzofurans, as measured by EPA Reference Method 23.

(9) **Dry scrubber** - An add-on air pollution control system that injects dry alkaline sorbent (dry injection) or sprays an alkaline sorbent (spray dryer) to react with and neutralize acid gases in the incinerator exhaust stream forming a dry powder material.

(10) **Fabric filter (or baghouse)** - An add-on air pollution control system that removes particulate matter and non-vaporous metals emissions by passing flue gas through filter bags.

(11) **Facilities manager** - The individual in charge of purchasing, maintaining, and operating the hospital/medical/infectious waste incinerator (HMIWI) or the owner/operator's representative responsible for the management of the HMIWI. Alternative titles may include director of facilities or vice president of support services.

(12) **Good combustion practices** - Good combustion practices is referenced in the "Hospital/Medical/Infectious Waste Incinerator Emission Guidelines: Summary of the Requirements for Section 111(d)/129 State Plans," EPA-456/R-97-007, dated November 26, 1997, and is defined for the purposes of these rules as a two-second residence time in the secondary chamber at 1,800 degrees Fahrenheit.

(13) **High-air phase** - The stage of the batch operating cycle when the primary chamber reaches and maintains maximum operating temperatures.

(14) **Hospital** - Any facility which has an organized medical staff, maintains at least six inpatient beds, and where the primary function of the institution is to provide diagnostic and therapeutic patient services and continuous nursing care primarily to human inpatients who are not related and who stay on average in excess of 24 hours per admission. This definition does not include facilities

maintained for the sole purpose of providing nursing or convalescent care to human patients who generally are not acutely ill, but who require continuing medical supervision.

(15) **Hospital/medical/infectious waste incinerator (HMIWI) or HMIWI unit** - Any device that combusts any amount of hospital waste and/or medical/infectious waste.

(A) **Batch HMIWI** - An HMIWI unit that is designed such that neither waste charging nor ash removal can occur during combustion.

(B) **Continuous HMIWI** - An HMIWI unit that is designed to allow waste charging and ash removal during combustion.

(C) **Intermittent HMIWI** - An HMIWI unit that is designed to allow waste charging, but not ash removal, during combustion.

(D) **Large HMIWI** - An HMIWI unit which has a maximum design waste combustor capacity that is greater than 500 pounds per hour (lb/hr), or a continuous or intermittent HMIWI unit which has a maximum charge rate that is greater than 500 lb/hr, or a batch HMIWI unit which has a maximum charge rate that is greater than 4,000 pounds per day.

(E) **Medium HMIWI** - An HMIWI unit which has a maximum design waste combustor capacity that is greater than 200 lb/hr but less than or equal to 500 lb/hr, or a continuous or

intermittent HMIWI unit which has a maximum charge rate that is greater than 200 lb/hr but less than or equal to 500 lb/hr, or a batch HMIWI unit which has a maximum charge rate that is greater than 1,600 pounds per day but less than or equal to 4,000 pounds per day.

(F) **Small HMIWI** - An HMIWI unit which has a maximum design waste combustor capacity that is less than or equal to 200 lb/hr, or a continuous or intermittent HMIWI unit which has a maximum charge rate that is less than or equal to 200 lb/hr, or a batch HMIWI unit which has a maximum charge rate that is less than or equal to 1,600 pounds per day.

(G) **Small-remote HMIWI** - A small HMIWI unit which is located more than 50 miles from the boundary of the nearest Standard Metropolitan Statistical Area (as defined in Office of Management and Budget Bulletin Number 93-17 entitled "Revised Statistical Definitions for Metropolitan Areas" dated June 30, 1993), and burns less than 2,000 pounds of waste per week.

(16) **Hospital waste** - Discards generated at a hospital, except unused items returned to the manufacturer. The definition of hospital waste does not include human corpses, remains, and anatomical parts that are intended for interment or cremation.

(17) **Infectious agent** - Any organism (such as a virus or bacteria) that is capable of being communicated by invasion and multiplication in body tissues and capable of causing diseases or adverse health impacts in humans.

(18) **Low-level radioactive waste** - Waste material which contains radionuclides emitting primarily beta or gamma radiation, or both, in concentrations or quantities that exceed applicable federal or state standards for unrestricted release. Low-level radioactive waste is not high-level radioactive waste, spent nuclear fuel, or by-product material as defined by the Atomic Energy Act of 1954 (42 United States Code, §2014(e)(2)).

(19) **Malfunction** - Any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. Failures that are caused, in part, by poor maintenance or careless operation are not malfunctions. During periods of malfunction the operator shall operate within established parameters as much as possible, and monitoring of all applicable operating parameters shall continue until all waste has been combusted or until the malfunction ceases, whichever comes first.

(20) **Maximum charge rate** - For continuous and intermittent incinerators, 110% of the lowest three-hour average charge rate measured during the most recent performance test demonstrating compliance with all applicable emission limits; and for batch incinerators, 110% of the lowest daily charge rate measured during the most recent performance test demonstrating compliance with all applicable emission limits.

(21) **Maximum design waste burning capacity** -

(A) for intermittent and continuous incinerators,

Figure: 30 TAC §113.2070(21)(A)

$$C = \frac{P_v(15,000)}{8,500}$$

where:

C = incinerator capacity measured in pounds per hour (lb/hr)

P<sub>v</sub> = primary chamber volume measured in cubic feet (ft<sup>3</sup>)

15,000 = primary chamber heat release rate factor measured in British thermal units per cubic foot per hour (Btu/ft<sup>3</sup>/hr)

8,500 = standard waste heating value (Btu/lb)

(B) for batch incinerators.

Figure: 30 TAC §113.2070(21)(B)

$$C = \frac{P_v(4.5)}{8}$$

where:

C = incinerator capacity measured in lb/hr

P<sub>v</sub> = primary chamber volume measured in ft<sup>3</sup>

4.5 = waste density measured in lb/ft<sup>3</sup>

8 = typical hours of operation measured in hours

(22) Maximum fabric filter inlet temperature - 110% of the lowest three-hour average temperature at the inlet to the fabric filter (taken, at a minimum, once every minute) measured during the most recent performance test demonstrating compliance with the dioxin/furan emission limit.

(23) Maximum flue gas temperature - 110% of the lowest three-hour average temperature at the outlet from the wet scrubber (taken, at a minimum, once every minute) measured during the most recent performance test demonstrating compliance with the mercury (Hg) emission limit.

(24) Medical waste - Waste generated by health-care-related facilities and associated with health-care activities, not including garbage or rubbish generated from offices, kitchens, or other non-health-care activities. The term includes special waste from health-care-related facilities which is comprised of animal waste, bulk blood and blood products, microbiological waste, pathological waste, and sharps as those terms are defined in 25 TAC §1.132 (relating to Definition, Treatment, and Disposition of Special Waste from Health-Care Related Facilities). The term does not include medical waste produced on farmland or ranchland as defined in Texas Agriculture Code, §252.001(6) (relating to Definitions - Farmland or Ranchland), nor does the term include artificial, nonhuman materials removed from a patient and requested by the patient including, but not limited to, orthopedic devices and breast implants.

(25) Medical/infectious waste - Any waste generated in the diagnosis, treatment, or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of the following biologicals:

(A) cultures and stocks of infectious agents and associated biologicals, including: cultures from medical and pathological laboratories; cultures and stocks of infectious agents from

research and industrial laboratories; wastes from the production of biologicals; discarded live and attenuated vaccines; and culture dishes and devices used to transfer, inoculate, and mix cultures;

(B) human pathological waste, including: tissues; organs; and body parts and body fluids that are removed during surgery or autopsy, or other medical procedures; and specimens of body fluids and their containers;

(C) human blood and blood products, including: liquid waste human blood; products of blood; items saturated and/or dripping with human blood; or items that were saturated and/or dripping with human blood that are now caked with dried human blood; including serum, plasma, and other blood components, and their containers, which were used or intended for use in either patient care, testing and laboratory analysis, or the development of pharmaceuticals. Intravenous bags are also included in this category;

(D) sharps that have been used in animal or human patient care or treatment or in medical, research, or industrial laboratories, including: hypodermic needles; syringes (with or without the attached needle); Pasteur pipettes; scalpel blades; blood vials; needles with attached tubing; and culture dishes (regardless of presence of infectious agents). Also included are other types of broken or unbroken glassware that were in contact with infectious agents, such as slides and cover slips;

(E) animal waste, including: contaminated animal carcasses, body parts, and bedding of animals that were known to have been exposed to infectious agents during research (including research in veterinary hospitals); production of biologicals; or testing of pharmaceuticals;

(F) isolation wastes, including: biological waste and discarded materials contaminated with blood, excretions, exudates, or secretions from humans who are isolated to protect others from certain highly communicable diseases, or isolated animals known to be infected with highly communicable diseases;

(G) unused sharps, including the following unused, discarded sharps: hypodermic needles; suture needles; syringes; and scalpel blades; and

(H) does not include: hazardous waste identified or listed under the regulations in Title 40 Code of Federal Regulations Part 261 (40 CFR 261); household waste, as identified in 40 CFR 261.4(b)(1); ash from incineration of medical/infectious waste, once the incineration process has been completed; human corpses, remains, and anatomical parts that are intended for interment or cremation; and domestic sewage materials identified in 40 CFR 261.4(a)(1).

(26) **Minimum sorbent flow rate** - 90% of the highest three-hour average sorbent flow rate (taken, at a minimum, once every hour) measured during the most recent performance test demonstrating compliance with the applicable (dioxin/furan, mercury, and hydrogen chloride) emission limit.

(27) Minimum wet scrubber parameters - 90% of the highest three-hour average scrubber parameter (taken, at a minimum, once every minute) measured during the most recent performance test demonstrating compliance with the applicable emission limits. The parameters include:

(A) horsepower or amperage to the scrubber;

(B) pressure drop across the wet scrubber;

(C) liquid flow rate at the scrubber inlet; and

(D) liquid pH at the scrubber inlet.

(28) Minimum secondary chamber temperature - 90% of the highest three-hour average secondary chamber temperature (taken, at a minimum, once every minute) measured during the most recent performance test demonstrating compliance with the particulate matter, carbon monoxide, or dioxin/furan emission limits.

(29) Modification (or modified incinerator) - Any change to an incinerator unit after the effective date of these standards such that:

(A) the cumulative costs of the modifications, over the life of the unit, exceed 50% of the original cost of the construction and installation of the unit (not including the cost of any land purchased in connection with such construction or installation) updated to current costs; or

(B) the change involves a physical change in or change in the method of operation of the unit which increases the amount of any air pollutant emitted by the unit for which standards have been established under the FCAA, 42 United States Code, §7411 or §7429.

(30) **Operating day** - A 24-hour period between 12:00 a.m., midnight and the following midnight during which any amount of hospital waste or medical/infectious waste is combusted at any time in the incinerator.

(31) **Operation** - The period during which waste is combusted in the incinerator excluding periods of startup or shutdown.

(32) **Particulate matter** - The total particulate matter emitted from an incinerator as measured by EPA Reference Method 5, concerning Determination of Particulate Emissions from Stationary Sources (40 CFR 60, Appendix A, 1999), or Reference Method 29, concerning Determination of Metals Emissions from Stationary Sources (40 CFR 60, Appendix A, 1999).

(33) **Pathological waste** - Waste material consisting of only human or animal remains, anatomical parts, and/or tissue, the bags/containers used to collect and transport the waste material, and animal bedding (if applicable).

(34) **Primary chamber** - The chamber in an incinerator that receives waste material in which the waste is ignited and from which ash is removed.

(35) **Pyrolysis** - The endothermic gasification of hospital waste and/or medical/infectious waste using external energy.

(36) **Shutdown** - The period of time after all waste has been combusted in the primary chamber. For continuous incinerators, shutdown shall commence no less than two hours after the last charge to the incinerator. For intermittent incinerators, shutdown shall commence no less than four hours after the last charge to the incinerator. For batch incinerators, shutdown shall commence no less than five hours after the high-air phase of combustion has been completed.

(37) **Standard conditions** - A temperature of 68 degrees Fahrenheit (20 degrees Centigrade) and a pressure of 14.7 pounds per square inch (101.3 kilopascals).

(38) **Startup** - The period of time between the activation of the system and the first charge to the unit. For batch incinerators, startup is the period of time between activation of the system and ignition of the waste.

(39) Toxic equivalent quantity (TEQ) - For dioxins/furans, a TEQ basis=2,3,7,8-tetrachlorinated dibenzo-p-dioxin toxic equivalent based on the 1989 international toxic equivalency factors.

(40) Wet scrubber - An add-on air pollution control device that utilized an alkaline scrubbing liquor to collect particulate matter (including non-vaporous metals and condensed organics) and/or to absorb and neutralize acid gases.

**§113.2071. Designated Facilities.**

(a) Except as specified in Table 1 of this subsection, the rules in this division apply to those designated facilities with existing hospital/medical/infectious waste incinerator (HMIWI) units for which construction was commenced on or before June 20, 1996.

Figure: 30 TAC §113.2071(a)

Table 1. HMIWI Units Not Subject to Control Requirements.

<u>COMBUSTOR TYPE</u>	<u>SPECIAL REQUIREMENTS</u>
<u>Combustors during periods when burning only pathological waste, low-level radioactive waste, and/or chemotherapeutic waste, as defined in §113.2070.</u>	<ul style="list-style-type: none"> <li>• <u>Owner/Operator must perform notification and recordkeeping requirements specified in §113.2076(e).</u></li> </ul>
<u>Co-fired combustor, as defined in §113.2070.</u>	<ul style="list-style-type: none"> <li>• <u>Hospital waste and medical/infectious waste (by weight) must be less than 10% of total waste burned on a calendar quarter basis.</u></li> <li>• <u>Owner/Operator must perform notification and recordkeeping requirements specified in §113.2076(f).</u></li> </ul>
<u>Any combustor required to have a permit under §3005 of the Solid Waste Disposal Act.</u>	<ul style="list-style-type: none"> <li>• <u>None</u></li> </ul>
<u>Combustors which meet the applicability requirements under Title 40 Code of Federal Regulations Part 60 (40 CFR 60), Subparts Cb, Ea, or Eb (concerning Municipal Waste Combustors).</u>	<ul style="list-style-type: none"> <li>• <u>None</u></li> </ul>
<u>Pyrolysis units, as defined in §113.2070.</u>	<ul style="list-style-type: none"> <li>• <u>None</u></li> </ul>
<u>Cement kilns firing hospital waste and/or medical/infectious waste.</u>	<ul style="list-style-type: none"> <li>• <u>None</u></li> </ul>

(b) Physical or operational changes made to an existing HMIWI unit solely for the purpose of complying with the requirements of this division are not considered a modification as defined in §113.2070(28) of this title (relating to Definitions) and do not result in an existing HMIWI unit becoming subject to the provisions of 40 Code of Federal Regulations 60, Subpart Ec (relating to Standards of Performance for Hospital/Medical/Infectious Waste Incinerators for Which Construction is Commenced after June 20, 1996).

**§113.2072. Emission Limits.**

(a) All affected hospital/medical/infectious waste incinerator (HMIWI) units burning of medical waste, as defined in §113.2070 of this title (relating to Definitions), shall meet the emission limits specified in Table 2 of this subsection. The emission limits under this section apply at all times except during periods of startup, shutdown, or malfunction, provided that no hospital waste or medical/infectious waste is charged to the affected facility during startup, shutdown, or malfunction.

Figure: 30 TAC §113.2072(a)

Table 2. Emission Limits for Small, Medium, and Large HMIWI.

<u>Pollutant</u>	<u>Units</u>  (Corrected to 7% oxygen, dry basis according to the formula in §113.2075)	<u>Emission Limits</u>			
		<u>HMIWI Size</u>			
		<u>Small</u>	<u>Small Remote</u>	<u>Medium</u>	<u>Large</u>
<u>Particulate Matter</u>	<u>milligrams per dscm</u> <sup>1</sup>	<u>115</u>	<u>197</u>	<u>69</u>	<u>34</u>
	<u>(grains per dscf)</u>	<u>(0.05)</u>	<u>(0.086)</u>	<u>(0.03)</u>	<u>(0.015)</u>
<u>Carbon Monoxide</u>	<u>parts per million by volume</u>	<u>40</u>	<u>40</u>	<u>40</u>	<u>40</u>
<u>Dioxins/furans</u>	<u>nanograms per dscm total dioxins/furans</u>	<u>125</u>	<u>800</u>	<u>125</u>	<u>125</u>
	<u>(grains per billion dscf)</u>	<u>(55)</u>	<u>(350)</u>	<u>(55)</u>	<u>(55)</u>
	<u>or</u>	<u>or</u>	<u>or</u>	<u>or</u>	<u>or</u>
	<u>nanograms per dscm on a TEQ basis</u> <sup>3</sup>	<u>2.3</u>	<u>15</u>	<u>2.3</u>	<u>2.3</u>
	<u>(grains per billion dscf)</u>	<u>(1.0)</u>	<u>(6.6)</u>	<u>(1.0)</u>	<u>(1.0)</u>
<u>Hydrogen Chloride</u>	<u>parts per million by volume</u>	<u>100</u>		<u>100</u>	<u>100</u>
	<u>or</u>	<u>or</u>	<u>3100</u>	<u>or</u>	<u>or</u>
	<u>percent reduction</u>	<u>95%</u>		<u>95%</u>	<u>95%</u>
<u>Sulfur Dioxide</u>	<u>parts per million by volume</u>	<u>55</u>	<u>55</u>	<u>55</u>	<u>55</u>
<u>Nitrogen Oxides</u>	<u>parts per million by volume</u>	<u>250</u>	<u>250</u>	<u>250</u>	<u>250</u>
<u>Lead</u>	<u>milligrams per dscm</u>	<u>1.2</u>		<u>1.2</u>	<u>1.2</u>
	<u>(grains per thousand dscf)</u>	<u>(0.52)</u>	<u>10</u>	<u>(0.52)</u>	<u>(0.52)</u>
	<u>or</u>	<u>or</u>	<u>(4.4)</u>	<u>or</u>	<u>or</u>
	<u>percent reduction</u>	<u>70%</u>		<u>70%</u>	<u>70%</u>
<u>Cadmium</u>	<u>milligrams per dscm</u>	<u>0.16</u>		<u>0.16</u>	<u>0.16</u>
	<u>(grains per thousand dscf)</u>	<u>(0.07)</u>	<u>4</u>	<u>(0.07)</u>	<u>(0.07)</u>
	<u>or</u>	<u>or</u>	<u>(1.7)</u>	<u>or</u>	<u>or</u>
	<u>percent reduction</u>	<u>65%</u>		<u>65%</u>	<u>65%</u>

<u>Pollutant</u>	<u>Units</u>  (Corrected to 7% oxygen, dry basis according to the formula in §113.2075)	<u>Emission Limits</u>			
		<u>HMIWI Size</u>			
		<u>Small</u>	<u>Small Remote</u>	<u>Medium</u>	<u>Large</u>
<u>Mercury</u>	<u>milligrams per dscm</u>	<u>0.55</u>		<u>0.55</u>	<u>0.55</u>
	<u>(grains per thousand dscf)</u>	<u>(0.24)</u>	<u>7.5</u>	<u>(0.24)</u>	<u>(0.24)</u>
	<u>or</u>	<u>or</u>	<u>(3.3)</u>	<u>or</u>	<u>or</u>
	<u>percent reduction</u>	<u>85%</u>		<u>85%</u>	<u>85%</u>

Footnotes:

<sup>1</sup> dscm = dry standard cubic meter

<sup>2</sup> dscf = dry standard cubic foot

<sup>3</sup> TEQ basis=2,3,7,8-tetrachlorinated dibenzo-p-dioxin toxic equivalent based on the 1989 international toxic equivalency factors. Dioxins/furans and oxygen content shall be measured at the same location.

(b) All affected HMIWI units burning hospital waste or medical/infectious waste, as defined in §113.2070 of this title, shall comply with the following operational requirements:

(1) be equipped with a secondary chamber which retains all combustion gases for 2.0 seconds or longer at a temperature of 1,800 degrees Fahrenheit or higher, measured at the exit of the secondary chamber and recorded continuously;

(2) not exceed visible emissions of 5.0% opacity averaged over any six-minute period;

and

(3) file an abbreviated federal operating permit application with the executive director.

**§113.2074. Inspection Requirements.**

(a) Each small-remote hospital/medical/infectious waste incinerator (HMIWI) unit as defined in §113.2070 of this title (relating to Definitions) shall undergo an initial equipment inspection, followed by annual inspections. The initial inspection shall occur within one year following EPA approval of the state plan, and the annual inspection shall occur no later than 12 months after the previous equipment inspection and that is at least as protective as specified in Table 3 of this subsection.

Figure: 30 TAC §113.2074(a)

Table 3. Initial and Annual Inspection Requirements.

Items to be Inspected	Requirements
<u>Burners, pilot assemblies, and pilot sensing devices</u>	<u>Inspect for proper operation; clean pilot flame sensor, as necessary.</u>
<u>Combustion air</u>	<u>Ensure proper adjustment of primary and secondary chamber combustion air, and adjust as necessary.</u>
<u>Hinges and door latches</u>	<u>Inspect and lubricate as necessary.</u>
<u>Dampers, fans, and blowers</u>	<u>Inspect for proper operation.</u>
<u>Incinerator door and door gaskets</u>	<u>Inspect for proper sealing.</u>
<u>Motors</u>	<u>Inspect for proper operation.</u>
<u>Primary chamber refractory lining</u>	<u>Inspect lining; clean and repair/replace as necessary.</u>
<u>Incinerator shell</u>	<u>Inspect for corrosion and/or hot spots.</u>
<u>Secondary/tertiary chamber and stack</u>	<u>Inspect and clean as necessary.</u>
<u>Mechanical loader, including limit switches</u>	<u>Inspect for proper operation, if applicable.</u>
<u>Waste bed (grates)</u>	<u>visually inspect and repair/seal, as appropriate.</u>
<u>Air pollution control device(s)</u>	<u>Inspect device(s) for proper operation, if applicable.</u>
<u>Waste heat boiler systems</u>	<u>Inspect to ensure proper operation, if applicable.</u>
<u>Bypass stack components</u>	<u>Inspect components.</u>
<u>Thermocouples, sorbent feed systems, and any other monitoring equipment</u>	<u>Ensure proper calibration of equipment.</u>
<u>General equipment</u>	<u>Generally observe that the equipment is maintained in good operating condition.</u>
<u>Incinerator operation</u>	<u>For the burn cycle that follows the inspection, document that the incinerator is operating properly and make any necessary adjustments.</u>

(b) Each small-remote HMIWI unit shall complete all necessary repairs within ten operating days, but in no case longer than 30 calendar days, following an equipment inspection date where the problems were first noted, unless the owner or operator obtains written approval from the executive director, or a designated representative of the commission, establishing a date when all necessary repairs will be completed.

**§113.2075. Compliance and Performance Testing Requirements.**

(a) Except as provided in subsection (b) of this section, each hospital/medical/infectious waste incinerator (HMIWI) unit shall meet the following compliance and performance testing requirements.

(1) The owner or operator of an affected facility shall ensure an initial performance test is conducted to determine compliance with the emission limits using the test methods and procedures listed in Table 4 of this paragraph and subparagraphs (A)-(H) of this paragraph. The use of the bypass stack during a performance test shall invalidate the performance test.

Figure: 30 TAC §113.2075(a)(1)

Table 4. Test Methods.

<u>EMISSION LIMIT</u>	<u>TEST METHODS</u> <u>(EPA Reference Methods are as specified in Title 40 Code of Federal Regulations, Appendix A, dated 1999, unless otherwise specified)</u>	
	<u>Small-Remote HMIWI</u>	<u>Small, Medium, and Large HMIWI</u>
<u>Opacity</u>	<u>Method 9</u>	<u>Method 9</u>
<u>Particulate Matter (PM)</u>	<u>Method 5</u> <u>or</u> <u>Method 29</u>	<u>Method 5</u> <u>or</u> <u>Method 29</u>
<u>Carbon Monoxide (CO)</u>	<u>Method 10 or 10B</u>	<u>Method 10, or 10B</u>
<u>Dioxins/furans</u>	<u>Method 23<sup>1</sup> for total dioxins/furans</u> <u>or</u> <u>TEQ Method specified in</u> <u>§113.2075(a)(2)(I)(ii)</u>	<u>Method 23<sup>1</sup> for total dioxins/furans</u> <u>or</u> <u>TEQ Method specified in</u> <u>§113.2075(a)(2)(I)(ii)</u>
<u>Hydrogen Chloride (HCl)</u>	<u>Testing not required</u>	<u>Method 26</u>
<u>Sulfur Dioxide (SO<sub>2</sub>)</u>	<u>Testing not required</u>	<u>Testing not required</u>
<u>Nitrogen Oxides (NO<sub>x</sub>)</u>	<u>Testing not required</u>	<u>Testing not required</u>
<u>Lead (Pb)</u>	<u>Testing not required</u>	<u>Reference Method 29</u>
<u>Cadmium (Cd)</u>	<u>Testing not required</u>	<u>Reference Method 29</u>
<u>Mercury (Hg)</u>	<u>Reference Method 29</u>	<u>Reference Method 29</u>

Footnotes:

<sup>1</sup> Minimum sample time is 4 hours per test run.

(A) All performance tests shall consist of a minimum of three test runs conducted under representative operating conditions.

(B) The minimum sample time shall be one hour per test run unless otherwise indicated.

(C) EPA Test Method 1 of 40 Code of Federal Regulations (CFR) 60, Appendix A, shall be used to select the sampling location and number of traverse points.

(D) EPA Test Method 3 or 3A of Appendix A shall be used for gas composition analysis, including measurement of oxygen concentration. Method 3 or 3A shall be used simultaneously with each test method referenced in Table 4 of this paragraph.

(E) The pollutant concentrations shall be adjusted to 7.0% oxygen using the following equation.

Figure: 30 TAC §113.2075(a)(1)(E)

$$P_c = P_m \left( \frac{13.9}{20.9 - Y} \right)$$

Where:

$P_c$  = the corrected concentration of the pollutant in question,

$P_m$  = the measured pollutant concentration,

13.9 = 20.9% oxygen - 7% oxygen (defined oxygen correction basis),

20.9 = oxygen content in air (%), and

$Y$  = the measured concentration of oxygen (%) in the stack gas using the Orsat method for oxygen analysis of dry flue gas as defined in 40 CFR 60, Appendix A (Method 3).

(F) If the affected facility has selected the toxic equivalent quantity method for dioxins/furans, the following procedures shall be used to determine compliance:

(i) measure the concentration of each dioxin/furan tetra- through octa-cogener emitted using EPA Reference Method 23;

(ii) for each dioxin/furan cogener, multiply the cogener concentration by its corresponding toxic equivalency factor specified in Table 5 of this clause; and

Figure: 30 TAC §113.2075(a)(1)(F)(ii)

Table 5. Toxic Equivalency Factors (TEF).

<u>Dioxin/furan Cogener</u>	<u>TEF</u>
<u>2, 3, 7, 8-tetrachlorinated dibenzo-p-dioxin</u>	<u>1.0</u>
<u>1, 2, 3, 7, 8-pentachlorinated dibenzo-p-dioxin</u>	<u>0.5</u>
<u>1, 2, 3, 4, 7, 8-hexachlorinated dibenzo-p-dioxin</u>	<u>0.1</u>
<u>1, 2, 3, 7, 8, 9-hexachlorinated dibenzo-p-dioxin</u>	<u>0.1</u>
<u>1, 2, 3, 6, 7, 8-hexachlorinated dibenzi-p-dioxin</u>	<u>0.1</u>
<u>1, 2, 3, 4, 6, 7, 8-heptachlorinated dibenzi-p-dioxin</u>	<u>0.01</u>
<u>octachlorinated dibenzi-p-dioxin</u>	<u>0.001</u>
<u>2, 3, 7, 8-tetrachlorinated dibenzofuran</u>	<u>0.1</u>
<u>2, 3, 4, 7, 8-pentachlorinated dibenzofuran</u>	<u>0.5</u>
<u>1, 2, 3, 7, 8-pentachlorinated dibenzofuran</u>	<u>0.05</u>
<u>1, 2, 3, 4, 7, 8-hexachlorinated dibenzofuran</u>	<u>0.1</u>
<u>1, 2, 3, 6, 7, 8-hexachlorinated dibenzofuran</u>	<u>0.1</u>
<u>1, 2, 3, 7, 8, 9-hexachlorinated dibenzofuran</u>	<u>0.1</u>
<u>2, 3, 4, 6, 7, 8-hexachlorinated dibenzofuran</u>	<u>0.1</u>
<u>1, 2, 3, 4, 6, 7, 8-heptachlorinated dibenzofuran</u>	<u>0.01</u>
<u>1, 2, 3, 4, 7, 8, 9-heptachlorinated dibenzofuran</u>	<u>0.01</u>
<u>Octachlorinated dibenzofuran</u>	<u>0.001</u>

(iii) sum the products calculated in clause (ii) of this subparagraph to obtain the total concentration of dioxins/furans emitted in terms of toxic equivalency.

(G) If the affected facility has selected the percentage reduction method for hydrogen chloride (HCl), the percentage reduction in HCl (%R<sub>HCl</sub>) is computed using the following formula.

Figure: 30 TAC §113.2075(a)(1)(G)

$$\% R_{HCL} = \left( \frac{(E_1 - E_0)}{E_1} \right) * 100$$

Where:

%R<sub>HCL</sub> = percentage reduction of HCl emissions achieved;

E<sub>i</sub> = HCl emission concentration measured at the control device inlet,  
corrected to 7% oxygen (dry basis);

E<sub>o</sub> = HCl emission concentration measured at the control device outlet,  
corrected to 7% oxygen (dry basis).

(H) If the affected facility has selected the percentage reduction method for  
metals (lead, cadmium, or mercury), the percentage reduction of each metal (% R<sub>metal</sub>) is computed  
using the following formula.

Figure: 30 TAC §113.2075(a)(1)(H)

$$\% R_{Metal} = \left( \frac{(E_1 - E_0)}{E_1} \right) * 100$$

Where:

%R<sub>metal</sub> = percentage reduction of metal emissions achieved;

E<sub>i</sub> = metal emission concentration measured at the control device inlet, corrected to 7% oxygen (dry basis);

E<sub>o</sub> = metal emission concentration measured at the control device outlet, corrected to 7% oxygen (dry basis).

(2) Following the date on which the initial performance test is completed or is required to be completed under §113.2079 of this title (relating to Compliance Schedules), whichever date comes first, the owner or operator of an affected facility shall:

(A) determine compliance with the opacity limit by conducting an annual performance test (no more than 12 months following the previous performance test) using the applicable procedures and test methods listed in Table 4 of paragraph (1) of this subsection;

(B) determine compliance with the particulate matter (PM), carbon monoxide (CO), and HCl emission limits by conducting an annual performance test (no more than 12 months following the previous performance test) using the applicable procedures and test methods listed in paragraph (1) of this subsection. If all three performance tests over a three-year period indicate compliance with the emission limit for a pollutant (PM, CO, or HCl), the owner or operator may forego a performance test for that pollutant for the subsequent two years. At a minimum, a

performance test for PM, CO, or HCl shall be conducted every third year (no more than 36 months following the previous performance test). If a performance test conducted every third year indicates compliance with the emission limit for a pollutant (PM, CO, or HCl), the owner or operator may forego a performance test for that pollutant for an additional two years. If any performance test indicates noncompliance with the respective emission limit, a performance test for that pollutant shall be conducted annually until all annual performance tests over a three-year period indicate compliance with the emission limit. The use of the bypass stack during a performance test shall invalidate the performance test; and

(C) facilities using a continuous emissions monitoring system (CEMS) to demonstrate compliance with any of the emission limits shall:

(i) determine compliance with the appropriate emission limits using a 12-hour rolling average, calculated each hour as the average of the previous 12 operating hours (not including startup, shutdown, or malfunction); and

(ii) operate all CEMS in accordance with the applicable procedures under 40 CFR 60, Appendixes B and F.

(3) For an affected facility equipped with a dry scrubber followed by a fabric filter, a wet scrubber, or dry scrubber followed by both a fabric filter and a wet scrubber, the following conditions apply.

(A) The owner or operator shall establish the appropriate maximum and minimum operating parameters, indicated in Table 6 of this subparagraph for each control system, as site specific operating parameters based on data obtained from the initial performance test to determine compliance with the emission limits.

Figure: 30 TAC §113.2075(a)(3)(A)

Table 6. Operating Parameters to be Monitored, and Minimum Measurement and Recording Frequencies.

<u>Operating Parameters to be Monitored</u>  <u>(3-hour rolling averages)</u>	<u>Minimum Frequency</u>		<u>Control System</u>		
	<u>Data Measurement</u>	<u>Data Recording</u>	<u>Dry Scrubber followed by Fabric Filter</u>	<u>Wet Scrubber</u>	<u>Dry Scrubber followed by Fabric Filter and Wet Scrubber</u>
<u>Maximum Operating Parameters</u>					
<u>Charge Rate</u>	<u>continuous</u>	<u>1 per hour</u>	✓	✓	✓
<u>Fabric Filter Inlet Temperature</u>	<u>continuous</u>	<u>1 per minute</u>	✓		✓
<u>Flue Gas Temperature</u>	<u>continuous</u>	<u>1 per minute</u>		✓	✓
<u>Minimum Operating Parameters</u>					
<u>Secondary Chamber Temperature</u>	<u>continuous</u>	<u>1 per minute</u>	✓	✓	✓
<u>Dioxin/furan Sorbent Flow Rate</u>	<u>hourly</u>	<u>1 per hour</u>	✓		✓
<u>HC<sub>i</sub> Sorbent Flow Rate</u>	<u>hourly</u>	<u>1 per hour</u>	✓		✓
<u>Mercury (H<sub>g</sub>) Sorbent Flow Rate</u>	<u>hourly</u>	<u>1 per hour</u>	✓		✓
<u>Pressure Drop Across the Wet Scrubber</u>  <u>or</u> <u>Horsepower or Amperage to Wet Scrubber</u>	<u>continuous</u>	<u>1 per minute</u>		✓	✓
<u>Wet Scrubber Liquor Flow Rate</u>	<u>continuous</u>	<u>1 per minute</u>		✓	✓
<u>Wet Scrubber Liquor pH</u>	<u>continuous</u>	<u>1 per minute</u>		✓	✓

(B) Following the date on which the initial performance test is completed or is required to be completed, whichever date comes first, the owner or operator shall ensure that the

affected facility does not operate above any of the applicable maximum operating parameters or below any of the applicable minimum operating parameters listed in Table 6 of subparagraph (A) of this paragraph and measured as three-hour rolling averages (calculated each hour as the average of the previous three operating hours) at all times except during periods of startup, shutdown, and malfunction. Operating parameter limits do not apply during performance tests. Operation above the established maximum or below the established minimum operating parameters shall constitute a violation of established operating parameters. Except as provided in subparagraph (C) of this paragraph, operation of affected facilities outside of the operating parameter limit combinations as listed in Table 7 of this subparagraph shall constitute violations of the applicable emission standards.

Figure: 30 TAC §113.2075(a)(3)(B)

Table 7. Emission Violation Triggers.

<u>CONTROL METHOD</u>	<u>OPERATING PARAMETER</u> (3-hour rolling averages)	<u>Particulate Matter</u>	<u>Carbon Monoxide</u>	<u>Dioxin/furan</u>	<u>Hydrogen Chloride</u>	<u>Sulfur Dioxide</u>	<u>Oxides of Nitrogen</u>	<u>Lead</u>	<u>Cadmium</u>	<u>Mercury</u>
<u>Dry Scrubber followed by a Fabric Filter</u>	<u>&gt; Max. Charge Rate</u> <u>and</u> <u>&lt; Min. Secondary Chamber Temp.</u>		<u>↘<sup>1</sup></u>							

<u>CONTROL</u> <u>METHOD</u>	<u>OPERATING PARAMETER</u> <u>(3-hour rolling averages)</u>	<u>Particulate Matter</u>	<u>Carbon Monoxide</u>	<u>Dioxin/furan</u>	<u>Hydrogen Chloride</u>	<u>Sulfur Dioxide</u>	<u>Oxides of Nitrogen</u>	<u>Lead</u>	<u>Cadmium</u>	<u>Mercury</u>
	<u>&gt; Max. Charge Rate</u> <u>and</u> <u>&gt; Max. Fabric Filter Inlet Temp.</u> <u>and</u> <u>&lt; Min. Dioxin/furan Sorbent Flow Rate</u>			✓						
	<u>&gt; Max. Charge Rate</u> <u>and</u> <u>&lt; Min. HCl Sorbent Flow Rate</u>				✓					
	<u>&gt; Max. Charge Rate</u> <u>and</u> <u>&lt; Min. Hg Sorbent Flow Rate</u>									✓
	<u>Use of Bypass Stack</u> <u>(except during startup, shutdown, or</u> <u>malfunction)</u>	✓		✓	✓			✓	✓	✓
<u>Wet Scrubber</u>	<u>&gt; Max. Charge Rate</u> <u>and</u> <u>&lt; Min. Pressure Drop Across Wet Scrubber</u> <u>or</u> <u>&lt; Min. Horsepower to Wet Scrubber</u> <u>or</u> <u>&lt; Min. Amperage to Wet Scrubber</u>	✓								

<u>CONTROL METHOD</u>	<u>OPERATING PARAMETER</u> (3-hour rolling averages)	<u>Particulate Matter</u>	<u>Carbon Monoxide</u>	<u>Dioxin/furan</u>	<u>Hydrogen Chloride</u>	<u>Sulfur Dioxide</u>	<u>Oxides of Nitrogen</u>	<u>Lead</u>	<u>Cadmium</u>	<u>Mercury</u>
	<u>&gt; Max. Charge Rate</u> <u>and</u> <u>&lt;Min. Secondary Chamber Temp.</u>		✓ <sup>1</sup>							
	<u>&gt; Max. Charge Rate</u> <u>and</u> <u>&lt;Min. Secondary Chamber Temp.</u> <u>and</u> <u>&lt;Min. Wet Scrubber Liquor Flow Rate</u>			✓						
	<u>&gt; Max. Charge Rate</u> <u>and</u> <u>&lt;Min. Wet Scrubber Liquor pH</u>				✓					
	<u>&gt; Max. Charge Rate</u> <u>and</u> <u>&gt;Max. Flue Gas Temp.</u>									✓
	<u>Use of Bypass Stack</u> <u>(except during startup, shutdown, or malfunction)</u>	✓		✓	✓			✓	✓	✓
<u>Dry Scrubber followed by a Fabric Filter</u>	<u>&gt; Max. Charge Rate</u> <u>and</u> <u>&lt;Min. Secondary Chamber Temp.</u>		✓ <sup>1</sup>							

and a Wet Scrubber

<u>CONTROL METHOD</u>	<u>OPERATING PARAMETER</u> (3-hour rolling averages)	<u>Particulate Matter</u>	<u>Carbon Monoxide</u>	<u>Dioxin/furan</u>	<u>Hydrogen Chloride</u>	<u>Sulfur Dioxide</u>	<u>Oxides of Nitrogen</u>	<u>Lead</u>	<u>Cadmium</u>	<u>Mercury</u>
	<u>&gt; Max. Charge Rate</u> <u>and</u> <u>&gt; Max. Fabric Filter Inlet Temp.</u> <u>and</u> <u>&lt; Min. Dioxin/furan Sorbent Flow Rate</u>			✓						
	<u>&gt; Max. Charge Rate</u> <u>and</u> <u>&lt; Min. Wet Scrubber Liquor pH</u>				✓					
	<u>&gt; Max. Charge Rate</u> <u>and</u> <u>&lt; Min. Hg Sorbent Flow Rate</u>									✓
	<u>Use of Bypass Stack</u> <u>(except during startup, shutdown, or</u> <u>malfunction)</u>	✓		✓	✓			✓	✓	✓

Footnotes:

<sup>1</sup> If a CO CEMS is used, the violation of the CO emissions limit is determined by the CEMS.

(C) The owner or operator may conduct a repeat performance test within 30 days of violation of applicable operating parameters to demonstrate that the affected facility is not in violation of the applicable emission limits. Repeat performance tests conducted under this subparagraph shall be conducted using the identical operating parameters that indicated a violation under subparagraph (B) of this paragraph.

(4) The owner or operator of an affected facility using an air pollution control device other than a dry scrubber followed by a fabric filter, a wet scrubber, or a dry scrubber followed by a fabric filter and a wet scrubber to comply with the emission limits under §113.2072 of this title (relating to Emission Limits), shall petition the executive director or his designated representative for other site-specific operating parameters to be established during the initial performance test and continuously monitored thereafter. The owner or operator shall not conduct the initial performance test until after the petition has been approved by the executive director or his designated representative.

(5) The owner or operator of an affected facility may conduct a repeat performance test at any time to establish new values for the operating parameters. The executive director or his designated representative may also request a repeat performance test at any time.

(b) Each small-remote HMIWI unit, as defined in §113.2070 of this title (relating to Definitions) shall demonstrate compliance with §113.2072 of this title by meeting the following compliance and performance testing requirements.

(1) The owner or operator shall conduct the performance testing requirements in subsection (a)(1)(A)-(E) of this section; Table 4 of subsection (a)(1) of this section for opacity, PM, CO, dioxins/furans, and mercury; and subsection (a)(2)(A) of this section, as appropriate. The 2,000 pound per week limitation under §113.2072(a)(4) of this title does not apply during performance tests.

(2) The owner or operator shall establish maximum charge rate and minimum secondary chamber temperature as site-specific operating parameters during the initial performance test to determine compliance with applicable emission limits.

(3) Following the date on which the initial performance test is completed or is required to be completed under §113.2079 of this title, whichever date comes first, the owner or operator shall ensure that the designated facility does not operate above the maximum charge rate or below the minimum secondary chamber temperature measured as three-hour rolling averages (calculated each hour as the average of the previous three operating hours) at all times except during periods of startup, shutdown, and malfunction. Operating parameter limits do not apply during performance tests. Operation above the maximum charge rate or below the minimum secondary chamber temperature shall constitute a violation of the established operating parameters.

(4) Except as provided in paragraph (5) of this subsection, operation of the designated facility above the maximum charge rate and below the minimum secondary chamber temperature on a three-hour rolling average simultaneously shall constitute a violation of the PM, CO, and dioxin/furan emission limits.

(5) The owner or operator may conduct a repeat performance test within 30 days of violation of applicable operating parameters to demonstrate that the designated facility is not in violation of the applicable emission limits. Repeat performance tests conducted under this subsection must be

conducted using the identical operating parameters that indicated a violation under paragraph (4) of this subsection.

(c) Equivalent test methods may be approved by the executive director or his designated representative.

**§113.2076. Monitoring, Reporting, and Recordkeeping Requirements.**

(a) Monitoring Requirements for Affected Facilities. Except as provided in subsection (b) of this section, the owner or operator of a hospital/medical/infectious waste incinerator (HMIWI) unit, as defined in §113.2070 of this title (relating to Definitions) shall comply with the following monitoring requirements.

(1) The owner or operator of an affected facility shall install, calibrate (to manufacturers' specifications), maintain, and operate devices (or establish methods) for monitoring the applicable maximum and minimum operating parameters listed in Table 6, §113.2075(a)(3)(A) of this title (relating to Compliance and Performance Testing Requirements), such that these devices (or methods) measure and record values for these operating parameters at the frequencies indicated in Table 6, §113.2075(a)(3)(A) of this title, at all times, except during periods of startup and shutdown.

(2) The owner or operator of an affected facility shall install, calibrate (to manufacturers' specifications), maintain, and operate a device or method for measuring the use of the bypass stack including date, time, and duration.

(3) The owner or operator of an affected facility using some method other than a dry scrubber followed by a fabric filter, a wet scrubber, or a dry scrubber followed by a fabric filter and a wet scrubber to comply with the emission limits under §113.2072 of this title (relating to Emission Limits) shall install, calibrate (to manufacturers' specifications), maintain, and operate the equipment necessary to monitor the site-specific operating parameters developed under §113.2075(a)(5) of this title.

(4) The owner or operator of an affected facility shall obtain monitoring data at all times during HMIWI operation except during periods of monitoring equipment malfunction, calibration, or repair. At a minimum, valid monitoring data shall be obtained for 75% of the operating hours per day and for 90% of the operating days per calendar quarter that the affected facility is combusting hospital waste and/or medical/infectious waste.

(5) Commercial medical waste incinerators and HMIWI units burning more than 200 (medium and large units) pounds per hour of hospital waste or medical/infectious waste shall be equipped with continuous emissions monitoring systems (CEMS) which measure and record in-stack carbon monoxide (CO) in addition to the other requirements of this section. Compliance with the CO limits specified in Table 1, §113.2071(a) of this title (relating to Designated Facilities) may be

demonstrated using a rolling hourly average. The rolling hourly average shall be defined as the arithmetic mean of the 60 most recent one-minute concentrations measured by the CEMS.

(6) HMIWI units may be equipped with certified continuous opacity monitoring systems (COMS) which measure and record exhaust plume opacity. Compliance with the opacity limits specified in §113.2072(b)(2) of this title may be demonstrated using a rolling hourly average. The rolling hourly average shall be defined as the arithmetic mean of the 60 most recent one-minute opacity values measured by the COMS.

(7) Except in the case of incinerators with COMS, CEMS, or equivalent monitors approved by the executive director or his designated representative, the incinerator shall be limited in hours of operation from one hour after sunrise to one hour before sunset.

(b) Monitoring Requirements for Small-Remote HMIWI Units. The owner or operator of a small-remote HMIWI unit, as defined in §113.2070 of this title shall comply with the following monitoring requirements.

(1) The owner or operator shall install, calibrate (to manufacturers' specifications), maintain, and operate a device for measuring and recording the temperature of the secondary chamber on a continuous basis, the output of which shall be recorded, at a minimum, once every minute throughout operation.

(2) The owner or operator shall install, calibrate (to manufacturers' specifications), maintain, and operate a device which automatically measures and records the date, time, and weight of each charge fed into the HMIWI.

(3) The owner or operator shall obtain monitoring data at all times during HMIWI operation except during periods of monitoring equipment malfunction, calibration, or repair. At a minimum, valid monitoring data shall be obtained for 75% of the operating hours per day and for 90% of the operating days per calendar quarter that the designated facility is combusting hospital waste and/or medical/infectious waste.

(c) Reporting and Recordkeeping Requirements for Affected HMIWI Units. Except as provided in subsections (d) - (f) of this section, the owner or operator of an HMIWI unit, as defined in §113.2070 of this title shall comply with the following reporting and recordkeeping requirements. The owner or operator of an affected facility shall maintain the information (as applicable) listed in Table 8 of this subsection. This information shall be maintained on-site for a period of at least five years in paper copy, computer-readable format, or an alternative format approved by the executive director or his designated representative. The information shall be made available upon request by authorized representatives of the commission, the EPA, or local air pollution control agencies.

Figure: 30 TAC §113.2076(c)

Table 8. Records and Reports for Affected Facilities.

<u>Record or Report</u>	<u>Record or Report Type</u>	<u>Data to be Recorded or Reported</u>
<p><u>Operating Records</u>            (Include calendar dates            for each record)</p>	<p><u>Emission Rates and Operating            Parameters</u></p>	<ul style="list-style-type: none"> <li>• <u>Concentration of any pollutant listed in §113.2072,</u> <u>or</u></li> <li>• <u>Measurements of opacity or CO as determined by the</u> <u>continuous monitoring system (if applicable).</u></li> </ul>
		<ul style="list-style-type: none"> <li>• <u>Charge dates, times, weights, and hourly charge</u> <u>rates.</u></li> </ul>
		<ul style="list-style-type: none"> <li>• <u>Fabric filter inlet temperatures during each minute of</u> <u>operation, as applicable.</u></li> </ul>
		<ul style="list-style-type: none"> <li>• <u>Amount and type of dioxin/furan sorbent used during</u> <u>each hour of operation, as applicable.</u></li> </ul>
		<ul style="list-style-type: none"> <li>• <u>Amount and type of Hg sorbent used during each</u> <u>hour of operation, as applicable.</u></li> </ul>
		<ul style="list-style-type: none"> <li>• <u>Amount and type of HCl sorbent used during each</u> <u>hour of operation, as applicable.</u></li> </ul>
		<ul style="list-style-type: none"> <li>• <u>Secondary chamber temperatures recorded during</u> <u>each minute of operation.</u></li> </ul>
		<ul style="list-style-type: none"> <li>• <u>Liquor flow rate to the wet scrubber inlet during</u> <u>each minute of operation, as applicable.</u></li> </ul>
		<ul style="list-style-type: none"> <li>• <u>Horsepower or amperage to the wet scrubber during</u> <u>each minute of operation, as applicable.</u></li> </ul>
		<ul style="list-style-type: none"> <li>• <u>Pressure drop across the wet scrubber system during</u> <u>each minute of operation, as applicable.</u></li> <li>• <u>Temperature at the outlet from the wet scrubber</u> <u>during each minute of operation, as applicable.</u></li> </ul>

<u>Record or Report</u>	<u>Record or Report Type</u>	<u>Data to be Recorded or Reported</u>
		<ul style="list-style-type: none"> <li>• <u>pH att the inlet to the wet scrubber during each minute of operation, as applicable.</u></li> <li>• <u>Use of the bypass stack, including dates, times, and durations.</u></li> <li>• <u>All operating parameter data collected by facilities complying with §113.2075(a)(5) and §113.2076(a)(3).</u></li> </ul>
	<u>Days Where Emissions Rates or Operating Parameters Have Not Been Obtained</u>	<ul style="list-style-type: none"> <li>• <u>Dates of occurrences</u></li> <li>• <u>Emission rate or operating parameter not measured.</u></li> <li>• <u>Reason for not obtaining the data.</u></li> <li>• <u>Corrective action taken.</u></li> </ul>
	<u>Equipment Malfunctions</u>	<ul style="list-style-type: none"> <li>• <u>Calendar days, times, and durations of malfunctions.</u></li> <li>• <u>Malfunction description.</u></li> <li>• <u>Corrective action taken.</u></li> </ul>
	<u>Days Where Emissions Rates or Operating Parameters Have Been Exceeded</u>	<ul style="list-style-type: none"> <li>• <u>Calendar days limits have been exceeded.</u></li> <li>• <u>Exceedance description.</u></li> <li>• <u>Exceedance reason.</u></li> <li>• <u>Corrective action taken.</u></li> </ul>
	<u>Performance Test Results</u>	<ul style="list-style-type: none"> <li>• <u>Results of initial, annual, and any subsequent performance tests to determine compliance with emission limits and/or establish operating parameters, as applicable.</u></li> </ul>

<u>Record or Report</u>	<u>Record or Report Type</u>	<u>Data to be Recorded or Reported</u>
	<u>Operator Training and Qualification</u>	<ul style="list-style-type: none"> <li>• <u>Names of operators who have completed operator training requirements, including training documentation and training dates.</u></li> <li>• <u>Names of operators who have met the criteria for qualification under §113.2078 and their dates of qualification.</u></li> <li>• <u>Names of operators who have completed review of information required by §113.2078(b), including dates of initial and subsequent reviews.</u></li> </ul>
	<u>Calibration</u>	<ul style="list-style-type: none"> <li>• <u>Calibration records of any monitoring devices required under §113.2076(a)(1)-(3).</u></li> </ul>
<u>Initial Performance Test Report</u>	<u>Report signed by the facilities manager and submitted to the executive director no later than 60 days after the initial performance test.</u>	<ul style="list-style-type: none"> <li>• <u>Initial performance test data as recorded under §113.2075(a)(2)(A)-(M).</u></li> <li>• <u>Values for the site-specific operating parameters established under §113.2075(a)(4) or (5).</u></li> <li>• <u>Waste management plan as specified under §113.2077.</u></li> </ul>

<u>Record or Report</u>	<u>Record or Report Type</u>	<u>Data to be Recorded or Reported</u>
<p><u>Annual Reports</u></p>	<p><u>Report signed by the facilities manager and submitted to the executive director one year following the submission of the initial performance test report or subsequent annual reports, unless the affected facility is subject to permitting requirements under Title V of the FCAA. Title V facilities shall submit these reports semiannually.</u></p>	<ul style="list-style-type: none"> <li>• <u>Values for the site-specific operating parameters established under §113.2075(a)(4) or (5).</u></li> <li>• <u>Highest maximum and lowest minimum operating parameter, as applicable, for each operating parameter recorded for the calendar year (or semi-annual period) being reported, and the previous calendar year (or semi-annual period) being reported, in order to provide the executive director or his designated representative with a summary of the facility performance over a 2-year period.</u></li> <li>• <u>If a performance test was conducted during the reporting period, the results of that test.</u></li> <li>• <u>Any information recorded under §113.2076(c)(1)(C) or (E) for the calendar year being reported, and the previous calendar year, in order to provide the executive director or his designated representative with a summary of the facility performance over a 2-year period.</u></li> <li>• <u>If no exceedances or malfunctions were reported under §113.2076(c)(1)(C) or (E) for the calendar year being reported, a statement that no exceedances occurred during the reporting period.</u></li> <li>• <u>Any use of the bypass stack, the duration, reason for malfunction, and corrective action taken.</u></li> <li>• <u>Waste Management Plan as specified under §113.2077, if revised during the reporting period.</u></li> </ul>

<u>Record or Report</u>	<u>Record or Report Type</u>	<u>Data to be Recorded or Reported</u>
<p><u>Semiannual Reports</u></p>	<p><u>Report signed by the facilities manager and submitted to the executive director no later than 60 days following the end of the reporting period. The first semi-annual reporting period ends 6 months following the submission of the initial performance test report. Subsequent reports shall be submitted no later than 6 calendar months following the previous report.</u></p>	<p><u>• Any information recorded under §113.2076(c)(1)(C) or (E) for the semi-annual period being reported.</u></p>

(d) Reporting and Recordkeeping Requirements for Small-Remote HMIWI Units. The owner or operator of a small-remote HMIWI unit, as defined in §113.2070 of this title shall comply with the following reporting and recordkeeping requirements:

(1) maintain records of the annual equipment inspections, any required maintenance, and any repairs not completed within ten operating days of an inspection. This information shall be maintained on-site for a period of at least five years in paper copy, computer-readable format, or an alternative format approved by the executive director or his designated representative. The information shall be made available upon request by authorized representatives of the commission, the EPA, or local air pollution control agencies; and

(2) submit an annual report containing information recorded under paragraph (1) of this subsection no later than 60 days following the year in which data was collected. Subsequent reports shall be sent no later than 12 calendar months following the previous report, unless the HMIWI unit is subject to permitting requirements under Title V of the FCAA, when the reports must be submitted semiannually. The report shall be signed by the facilities manager.

(e) Reporting and Recordkeeping Requirements for Units Burning Only Pathological Waste, Low-level Radioactive Waste, and/or Chemotherapeutic Waste. Combustors and incinerators burning only pathological waste, low-level radioactive waste, and/or chemotherapeutic waste, all as defined in §113.2070 of this title, are exempt from all requirements of this division with the exception of the following reporting and recordkeeping requirements provided that the owner or operator of the combustor:

(1) files an exemption claim with the executive director or his designated representative, with a copy to the EPA, Region VI, within one year of the effective date of this division; and

(2) keeps records on a calendar quarter basis of the periods of time when only pathological waste, low-level radioactive waste, and/or chemotherapeutic waste is burned.

(f) Reporting and Recordkeeping Requirements for Co-fired Combustors. Any co-fired combustor, as defined in §113.2070 of this title, is not subject to this division provided that the owner/operator of the combustor:

(1) files an exemption claim with the executive director or his designated representative, with a copy to the EPA, Region VI, within one year of the effective date of this division;

(2) provides an estimate of the relative weight of hospital waste, medical/infectious waste, and other fuels and/or wastes to be combusted; and

(3) keeps records on a calendar quarter basis of the weight of hospital waste and medical/infectious waste combusted, and the weight of all other fuels and wastes combusted at the co-fired combustor.

**§113.2077. Waste Management Plan.**

The owner or operator of the affected facility shall prepare a waste management plan. The plan shall identify both the feasibility and the approach to separate certain components of solid waste from the health care waste stream in order to reduce the amount of toxic emissions from incinerated waste. A waste management plan may include, but is not limited to, elements such as paper, cardboard, plastics, glass, battery, or metal recycling; or purchasing recycled or recyclable products. A plan may

include different goals or approaches for different areas or departments of the facility and need not include new waste management goals for every waste stream. It should identify, where possible, reasonably available additional waste management measures, taking into account the effectiveness of waste management measures already in place, the costs of additional measures, the emission reductions expected to be achieved, and any other environmental or energy impacts they might have. The American Hospital Association publication entitled "An Ounce of Prevention: Waste Reduction Strategies for Health Care Facilities," dated 1993, shall be considered in the development of the waste management plan.

**§113.2078. Operating Procedures and Operator Training/Qualification Requirements.**

(a) Operating Procedure Documentation. The owner or operator of a hospital/medical/infectious waste incinerator (HMIWI) unit subject to the requirements of this division shall document their operating procedures as specified in Table 9 of this subsection, and maintain the information listed in a readily accessible location for all HMIWI operators. This information, along with records of training shall be available for inspection by the commission, the EPA, or the local air pollution control agency. The owner or operator of an affected facility shall establish a program for reviewing the information listed in Table 9 of this subsection annually with each HMIWI operator for the purpose of maintaining proficiency of the operators. The initial review shall be conducted within six months after the effective date of this division or prior to assumption of responsibilities affecting HMIWI operation, whichever date is later.

Figure: 30 TAC §113.2078(a)

Table 9. Operating Procedure Documentation.

DOCUMENT TYPE	REQUIREMENTS
<u>Source Documents</u>	<ul style="list-style-type: none"> <li>• <u>A summary of the applicable standards under this division.</u></li> <li>• <u>A copy of the current Waste Management Plan.</u></li> <li>• <u>A description of the basic combustion theory applicable to the HMIWI unit.</u></li> </ul>
<u>Procedures</u>	<ul style="list-style-type: none"> <li>• <u>Waste receiving, handling, and charging.</u></li> <li>• <u>Startup and shutdown.</u></li> <li>• <u>HMIWI unit operation.</u></li> <li>• <u>Maintenance of proper combustion air supply.</u></li> <li>• <u>Applicable air pollution control system operation to maintain emission standards.</u></li> <li>• <u>Response to periodic malfunctions or conditions that may lead to malfunctions.</u></li> <li>• <u>Bypass stack operation.</u></li> <li>• <u>Emissions monitoring.</u></li> <li>• <u>Recordkeeping and reporting.</u></li> <li>• <u>Ash handling.</u></li> </ul>

(b) Training and Qualification. No owner or operator of an affected facility shall allow the affected facility to operate at any time unless a fully trained and qualified HMIWI operator is accessible, either at the facility or available within one hour. The trained and qualified HMIWI operator may operate the HMIWI directly or be the direct supervisor of one or more trained and qualified HMIWI operators.

(1) The minimum requirements for operator training are specified in Table 10 of this paragraph and shall be obtained through any course which meets these requirements.

Figure: 30 TAC §113.2078(b)(1)

Table 10. Training Course Requirements.

<p><u>Initial Classroom Training</u>   <u>(24 hours on following subjects)</u></p>	<ul style="list-style-type: none"> <li>• <u>Environmental concerns, including pathogen destruction and emission types.</u></li> <li>• <u>Basic combustion principles, including products of combustion.</u></li> <li>• <u>Operation of the incinerator type to be used by the operator, including proper startup, waste charging, and shutdown procedures.</u></li> <li>• <u>Combustion controls and monitoring.</u></li> <li>• <u>Operation of air pollution control equipment and factors affecting performance.</u></li> <li>• <u>Monitoring methods for continuous emissions monitoring systems (CEMS), HMIWI and air pollution control equipment operating parameters, and calibration procedures as applicable.</u></li> <li>• <u>Inspection and maintenance of HMIWI, air pollution control equipment, and CEMS.</u></li> <li>• <u>Actions to correct malfunctions or conditions which may lead to malfunction.</u></li> <li>• <u>Bottom and fly ash characteristics and handling procedures.</u></li> <li>• <u>Applicable federal, state, and local regulations.</u></li> <li>• <u>Work safety procedures.</u></li> <li>• <u>Pre-startup inspections.</u></li> <li>• <u>Recordkeeping requirements.</u></li> </ul>
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<u>Annual Refresher Training</u>  (4 hours on following subjects)	<ul style="list-style-type: none"> <li>• <u>Update of regulations.</u></li> <li>• <u>Operation of the incinerator type used by the operator, including startup and shutdown procedures.</u></li> <li>• <u>Inspection and maintenance.</u></li> <li>• <u>Actions to correct malfunctions or conditions which may lead to malfunction.</u></li> <li>• <u>Discussion of operating problems encountered by attendees.</u></li> </ul>
<u>Examination</u>	<ul style="list-style-type: none"> <li>• <u>An examination designed and administered by the instructor.</u></li> </ul>
<u>Reference Material</u>	<ul style="list-style-type: none"> <li>• <u>Material distributed to attendees covering the course topics.</u></li> </ul>

(2) Qualification shall be obtained by:

(A) completion of a training course that satisfies the criteria under paragraph (1) of this subsection; and

(B) either six months experience as an HMIWI operator, six months experience as a direct supervisor of an HMIWI operator, or completion of at least two burn cycles under the observation of two qualified HMIWI operators.

(3) Qualification is valid for a period of one year beginning on the date on which the examination is passed or the completion of the required experience, whichever is later.

(4) To maintain qualification, the trained and qualified HMIWI operator shall complete and pass an annual review or refresher course of at least four hours covering the requirements in Table

10 of paragraph (1) of this subsection. A lapsed qualification shall be renewed by one of the following methods.

(A) For those operators whose qualification has lapsed less than three years, the re-qualification requirements shall include successfully completing annual refresher training described in Table 10 of paragraph (1) of this subsection.

(B) For those operators whose qualification has lapsed three years or longer, the re-qualification requirements shall include repeating the initial classroom training.

**§113.2079. Compliance Schedules.**

(a) Within 60 days from the date the commission publishes notice in the *Texas Register* that the EPA has approved these rules and state plan, an owner or operator subject to the requirements of this division shall submit to the executive director a notice of intention to comply with these requirements within one year after EPA approval, a petition requesting a compliance extension, a notice of intention to shut down their hospital/medical/infectious waste incinerator (HMIWI) unit, or a petition requesting an extension of the shutdown date. The executive director will approve or deny a petition for compliance or shutdown extension within 60 days of receipt of the petition.

(1) Except as provided in paragraph (2) of this subsection, an owner or operator subject to the requirements of this division shall be in compliance with all provisions of this division on

or before the date one year after EPA approval of these rules and state plan, regardless of whether a designated facility is identified in the state plan inventory.

(2) An owner or operator who files a petition requesting a compliance extension shall comply with the requirements in Table 11 of this paragraph. The compliance schedule may be extended to allow compliance on or before the date three years after EPA approval of these rules and state plan, but in no case will a compliance extension be granted for a compliance date later than September 15, 2002.

Figure: 30 TAC §113.2079(a)(2)

Table 11. Compliance Extension Requirements.

<p><u>Analysis of Need</u></p>	<ul style="list-style-type: none"> <li>• <u>Document the analysis undertaken to support the need for a compliance extension, including an explanation why one year is insufficient.</u></li> </ul>
<p><u>Analysis of Off-site Transport Option</u></p>	<ul style="list-style-type: none"> <li>• <u>Evaluate the option of temporary or permanent transport of the waste offsite to a commercial medical waste treatment and disposal facility.</u></li> </ul>
<p><u>Control Plan</u></p> <p><u>Must specify measurable and enforceable incremental steps of progress (dates) toward compliance for installation of necessary air pollution control equipment.</u></p>	<ul style="list-style-type: none"> <li>• <u>Obtain services of architectural and engineering firm regarding the air pollution control devices (APCD).</u></li> <li>• <u>Obtain design drawings of APCDs.</u></li> <li>• <u>Contract award for control systems or process modifications, or purchase orders for APCDs.</u></li> <li>• <u>Submit petition for site-specific operating parameters under §113.2075(5), as applicable.</u></li> <li>• <u>Obtain major components of APCDs.</u></li> <li>• <u>Initiate of on-site construction or installation of APCDs or process changes.</u></li> <li>• <u>Complete on-site construction or installation of APCDs or process changes.</u></li> <li>• <u>Initial startup of APCDs.</u></li> <li>• <u>Initial compliance test(s) of APCDs.</u></li> <li>• <u>Final compliance.</u></li> </ul>

(3) Except as provided in paragraph (4) of this subsection, any HMIWI unit for which the owner or operator has filed a notice of intention to shut down will complete the shutdown on or before the date one year after EPA approval of these rules and state plan.

(4) An owner or operator who files a petition requesting a shutdown extension shall comply with the requirements in Table 12 of this paragraph. The shutdown schedule may be extended to allow compliance on or before the date three years after EPA approval of these rules and state plan, but in no case will a compliance extension be granted for a compliance date later than September 15, 2002.

Figure: 30 TAC §113.2079(a)(4)

Table 12. Shutdown Extension Requirements.

<p><u>Analysis of Need</u></p>	<ul style="list-style-type: none"> <li>• <u>Document the analysis undertaken to support the need for a shutdown extension, including an explanation why one year is insufficient.</u></li> </ul>
<p><u>Analysis of Off-site Transport Option</u></p>	<ul style="list-style-type: none"> <li>• <u>Evaluate the option of temporary or permanent transport of the waste offsite to a commercial medical waste treatment and disposal facility.</u></li> </ul>
<p><u>Shutdown Plan</u></p> <p><u>Must specify measurable and enforceable incremental steps of progress (dates) toward shutdown.</u></p>	<p style="text-align: center;"><u>Installing Alternative Treatment Technology (ATT)</u></p> <ul style="list-style-type: none"> <li>• <u>Contract award for ATT vendor.</u></li> <li>• <u>Initiate of on-site construction or installation of ATT.</u></li> <li>• <u>Complete on-site construction or installation of ATT.</u></li> <li>• <u>Shutdown of existing HMIWI unit.</u></li> <li>• <u>Render existing HMIWI unit inoperable</u></li> </ul> <p style="text-align: center;"><u>Contracting With Commercial Waste Treatment &amp; Disposal Company (WTDC)</u></p> <ul style="list-style-type: none"> <li>• <u>Obtain price quotes for commercial disposal services.</u></li> <li>• <u>Contract start with WTDC.</u></li> <li>• <u>Shutdown of existing HMIWI unit.</u></li> <li>• <u>Render existing HMIWI unit inoperable.</u></li> </ul>

(b) An owner or operator subject to the requirements of this division shall be in compliance with the operator training and qualification requirements specified in §113.2078(b) of this title (relating to Operating Procedures and Operator Training/Qualification Requirements) and the inspection requirements specified in §113.2078(c) of this title on or before the date one year after EPA approval of

these rules and state plan. Any owner or operator who has been granted an extended compliance schedule shall be in compliance with any additional operator training and qualification requirements and inspection requirements necessitated by the addition of air pollution control equipment on or before the extended compliance date granted by the executive director.

(c) An owner or operator of an affected HMIWI unit subject to the requirements of the federal operating permits program shall submit an abbreviated application to the executive director on or before September 15, 2000.