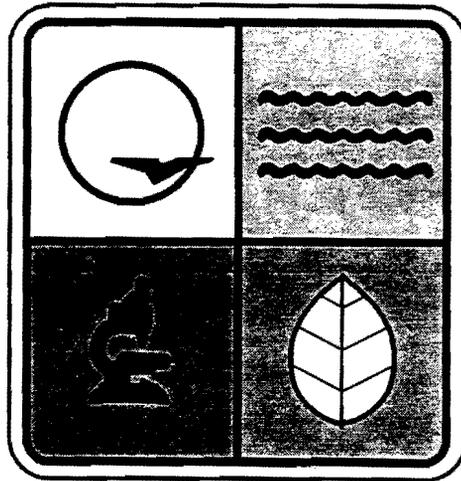


SECTION 111(D) AND 129 STATE PLAN FOR IMPLEMENTING
THE HOSPITAL, MEDICAL/INFECTIOUS WASTE INCINERATOR
EMISSION GUIDELINES FOR MISSOURI



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A. Introduction.

On September 15, 1997 the Environmental Protection Agency (EPA) adopted New Source Performance Standards for new Hospital, Medical/Infectious Waste Incinerators (HMIWI) and Emission Guidelines for existing HMIWI. The New Source Performance Standards are codified in Title 40 CFR Part 60, subpart Ec, and the Emission Guidelines are codified in Title 40 CFR Part 60, subpart Ce. The Clean Air Act requires that State regulatory agencies implement the Emission Guidelines according to a State Plan developed under sections 111(d) and 129 of the Clean Air Act. State Plans are to be submitted to EPA within one (1) year after EPA's promulgation of the Emission Guidelines.

State Plans must contain specific information and the legal mechanisms necessary to implement the Emission Guidelines. The minimum requirements are listed below.

- A demonstration of the State's legal authority to carry out the section 111(d)/129 State Plan and identification of enforceable mechanisms.
- An inventory of sources in the State affected by the Emission Guidelines, including to the best of the State's knowledge, HMIWI that have shut down and are capable of restarting.
- An inventory of emissions from HMIWI operating in the State.
- Emission limitation for HMIWI that are at least as protective as those in the Emission Guidelines.
- Compliance schedules.
- Testing, monitoring, and inspection requirements at least as protective as those in the Emission Guidelines.
- Reporting and recordkeeping requirements at least as protective as those in the Emission Guidelines.
- Operator training and qualification requirements at least as protective as those in the Emission Guidelines.
- Requirements for development of a Waste Management Plan at least as protective as those in the Emission Guidelines.
- A record of public hearing(s) on the State Plan.
- Provision for State progress reports to EPA.

- Title V permit application due date.
- A final compliance date not later than 3 years after approval of the State Plan or September 15, 2002, whichever is earlier.

Prior to submittal to EPA, the State must make available to the public the State Plan and provide opportunity for public comment. The State must submit the final Plan to EPA by September 15, 1998. The EPA then has 180 days to approve or disapprove the State Plan. Plan approval or disapproval will be published in the Federal Register. If a Plan is disapproved, EPA will state the reason for disapproval in the Federal Register and give the State opportunity to respond to EPA's concerns and submit a revised Plan. A Federal Plan will be developed for each State that does not have an approved Plan in place by September 15, 1999.

B. Demonstration of legal authority and identification of enforceable state mechanism selected by the state for implementing the Emission Guidelines.

The Air Conservation Commission of the State of Missouri is the air pollution control agency for the state. The commission was created to maintain the purity of the air resources of the state to protect the health, general welfare and physical property of the people, maximum employment and the full industrial development of the state by preventing, abating and controlling air pollution by all practical and economically feasible methods. The commission, more commonly referred to as the Missouri Air Conservation Commission (MACC), has the authority, pursuant to chapter 536, Revised Statutes of Missouri (RSMo), to promulgate rules and regulations to establish standards and guidelines to ensure that the State of Missouri is in compliance with the provisions of the federal Clean Air Act. The specific powers and duties of the MACC are outlined in section 643.050, RSMo. A copy of the Missouri Air Conservation Law, sections 643.010 – 643.070, RSMo, can be found in Appendix A.

The State of Missouri will use a state rule as the legal instrument to enforce the Emission Guidelines. The rule is 10 CSR 10-6.200 Hospital, Medical, Infectious Waste Incinerators. This rule will apply to the entire state. A copy of the proposed rule can be found in Appendix B.

C. Source Inventory of Affected Hospital, Medical, and Infectious Waste Incinerators.

Source inventory information was compiled from three sources. The Air Pollution Control Program (APCP) maintains databases on a number of facilities in the state. These databases contain information gathered as a result of permit applications and emission inventory questionnaires. The databases were queried for facilities having incinerators and then checked for applicability with the emission guidelines.

A second source of information came from questionnaires sent to hospitals located within the state. A listing of licensed or certified hospitals was obtained from the Missouri Department of Health (Directory of Hospitals and related Health Services, January 1998). Other facilities believed to have an incinerator were also sent a questionnaire.

The third source of information was from regional or local agency offices located throughout the state. Several of these offices provided a list of facilities operating incinerators in their area.

The source inventory combines the information gathered from these three sources. Sources include, but are not limited to, the inventory presented. Should another source be discovered subsequent to this notice, there will be no need to reopen the State Plan.

D. Emission Inventory of Affected Hospital, Medical, and Infectious Waste Incinerators.

An emission inventory is included on applicable incinerators. Estimates of emissions for the emission inventory come from emission factors found in Appendix G of EPA publication 456/R-97-007, *Hospital/Medical/Infectious Waste Incinerator Emission Guidelines: Summary of the Requirements for Section 111(d)/129 State Plans* and the AP-42. A copy of Appendix G and the medical waste incineration chapter from the AP-42 can be found in Appendix C. A few facilities provided stack-sampling results for their incinerators when responding to the APCP questionnaire.

A calculation of the total yearly waste throughput for each facility was used in estimating emissions. Most facilities supplied this information in responding to the questionnaire. Nearly all facilities that responded to the questionnaire indicated that no emission controls have been placed on their incinerators, therefore the "Uncontrolled" control level emission factors were used. The total yearly waste throughput was multiplied by the respective pollutant emission factor to calculate total emissions. The number is in pounds per year (lbs/yr).

E. Emission Limits.

Rule 10 CSR 10-6.200 establishes emission limits for all nine (9) pollutants listed in the Emission Guidelines. These pollutants are particulate matter, carbon monoxide, cadmium, lead, mercury, sulfur dioxide, hydrogen chloride, dioxins/furans, and nitrogen oxides. All of the limits are in units of concentration. The emission limits are identical to those listed in the Emission Guidelines, including the emission limits for small HMIWI located more than 50 miles from a standard metropolitan statistical area. A listing of the standard metropolitan statistical areas can be found in Appendix D. A limit on stack opacity is

established as listed in § 60.52c(b) of subpart Ec. The emission and stack opacity limits are found in section (3) of rule 10 CSR 10-6.200.

A comparison between emission limits or percent reductions proposed in the rule and estimated emissions based on annual throughput cannot be made. The emission limits are in terms of concentration or percent reductions and the estimated emissions are in pounds per year. Information on incinerator flow rates was not available to calculate concentration.

F. Compliance Schedules.

All applicable sources, whether identified in the source inventory or not, are subject to the State Plan and must be in compliance no later than September 1, 2000.

G. Testing, Monitoring, and Inspection Requirements.

Periodic performance tests and monitoring of specific operating parameters are required of applicable HMIWI. Facilities operating small existing HMIWI meeting the "rural" criteria shall conduct annual equipment inspections. Any necessary equipment repairs shall be completed within 10 HMIWI operating days following an equipment inspection. Repairs may be completed after 10 operating days provided the facility receives written permission and a date by which all repairs are to be completed.

H. Reporting and Recordkeeping Requirements.

Owners or operators of HMIWI shall include the reporting and recordkeeping requirements listed in § 60.58c(b), (c), (d), (e), and (f) of subpart Ec, excluding § 60.58c(b)(2)(ii) (fugitive emissions), and § 60.58c(b)(7) (siting). These requirements are found in section (9) of rule 10 CSR 10-6.200.

Each facility must maintain records of the performance test and specified operating parameters for 5 years. The facility must submit annual reports if it is in compliance and semiannual reports if it exceeds emission standards or operating parameter limits.

I. Operator Training and Qualification Requirements.

HMIWI operators shall meet the requirements for operator training and qualification as listed in § 60.53c of subpart Ec. Compliance with the operator training and qualification shall be according to the schedule specified in § 60.39e(e) of subpart Ec. These requirements are found in section (4) of rule 10 CSR 10-6.200.

Each facility is to have at least one trained and qualified operator on duty or on-call. The trained and qualified HMIWI operator must pass an HMIWI operator training course that meets the requirements specified in the rule. Each facility is to develop site-specific information regarding HMIWI operation. Each employee involved in the operation of the HMIWI is to review the operating information developed for the HMIWI each year.

J. Waste Management Plan.

Each owner or operator of a HMIWI shall prepare a waste management plan as listed in § 60.55c of subpart Ec. This is found in section (5) of rule 10 CSR 10-6.200.

Waste management plans are to identify the feasibility and approach to separate certain components of the solid waste stream from the health care waste stream. Facilities are to consult "An Ounce of Prevention: Waste Reduction Strategies for Health Care Facilities" a publication by the American Society for Health Care Environmental Services of the American Hospital Association, Chicago, Illinois.

K. Public Hearing on State Plan.

A public hearing was held on February 4, 1999, for rule 10 CSR 10-6.200. Public comment was received on the rule and any changes to the rule were presented to the MACC for adoption. The rule shall become effective on July 1999 if adopted by the MACC.

A public hearing was held on March 25, 1999, for the State Plan. Public comment was received on the State Plan and any changes to the State Plan were presented to the MACC for adoption. The MACC adopted the State Plan at its April 29, 1999, meeting.

Notice of the public hearing for the rule and the State Plan were published in major newspapers across the state at least 30 days before the meeting. Copies of the public notices are included in Appendix E.

L. State Progress Reports to EPA.

An annual report is to be submitted to EPA on the progress in implementing the Emission Guidelines. Progress reports will include compliance status, enforcement actions, increments of progress, identification of sources that have shut down or started operation, emission inventory information for sources that have started operation, emission inventory and compliance information, and copies of technical reports on all performance testing and monitoring, including concurrent process data.

M. Title V Permit Applications.

HMIWI located with major sources should already be identified as an emission unit in their permit application. If a permit has been issued and if there are 3 or more years remaining on the permit term, then the permit needs to be revised to incorporate the applicable requirements for the HMIWI rule. If there are less than 3 years remaining on the permit term, then the permit does not need to be revised to include the rule's applicable requirements until permit renewal. The source shall be subject to the applicable requirements, even though the requirements are not yet contained in the permit.

HMIWI not located with major sources and subject to the applicable requirements of the HMIWI rule, shall complete and submit a title V permit application to the permitting authority no later than 36 months after promulgation of the HMIWI rule.

Co-fired combustors and incinerators burning only pathological, low-level radioactive, and chemotherapeutic waste are exempt for the emission limits and are not required to obtain a title V permit. These facilities should indicate in their exemption claim that the incinerator is not subject to title V.

N. Final Compliance Date.

All applicable sources, whether identified in the source inventory or not, are subject to the State Plan and must be in compliance no later than September 1, 2000.

Missouri HMIWI Source Inventory

3/18/99

Facility	Address	City	State	Zip	Phone
Carroll County Memorial Hospital	1502 North Jefferson	Carrollton	MO	64633	660/542-1695
Independence Regional Health Center	1509 West Truman Road	Independence	MO	64050	816/838-6650
Fairfax Community Hospital	U.S. Highway 59, P.O. Box 107	Fairfax	MO	64446	660/686-2211
Doctors Regional Medical Center	621 Pine Boulevard	Poplar Bluff	MO	63901	573/686-7417
Hannibal Regional Hospital	P.O. Box 551, Highway 36 West	Hannibal	MO	63401	573/248-5383
Jefferson Memorial Hospital	Highway 61-67, P.O. Box 350	Crystal City	MO	63019	314/933-1000
Pemiscot Memorial Hospital	P.O. Box 489, Highway 61 and Reed	Hayti	MO	63851	573/359-1372
Salem Memorial District Hospital	P.O. Box 774, Highway 72 North	Salem	MO	65560	573/729-5917
St. Francis Hospital	P.O. Box 82, 100 W. Highway 60	Mountain View	MO	65548	417/934-2246
St. John's Regional Medical Center	2727 McClelland Boulevard	Joplin	MO	64804	417/625-2209
St. Joseph Health Center	300 First Capitol Drive	St. Charles	MO	63301	314/947-5368
St. Mary's Hospital of Blue Springs	201 West R.D. Mize Road	Blue Springs	MO	64015	816/228-5900
Ste. Genevieve County Memorial Hospital	Highway 61 and 32, P.O. Box 468	Ste. Genevieve	MO	63670	573/883-7761
General Leonard Wood Community Army Hospital	126 Missouri Ave.	Fort Leonard Wood	MO	65473	573/596-0131
Veterans Affairs Med Ctr-Kansas City	4801 Linwood Blvd	Kansas City	MO	64128	816/861-4700
John J. Pershing Veterans Affairs Medical Center	1500 N. Westwood Blvd	Poplar Bluff	MO	63901	573/778-4704
BioTech Services	6240 McKissok	St. Louis	MO	63147	
Boehringer Ingelheim Vetmedica, Inc. - Cosby	18030 State Road "O", Rt #1 Box 419	Cosby	MO	64436	816/390-0512
Boehringer Ingelheim Vetmedica, Inc. - St. Joseph	2621 North Belt Highway	St. Joseph	MO	64506	816/390-0512
The Energy Center - St. Louis University	3628 Rutger	St. Louis	MO	63110	
Hoechst Marion Roussel Inc.	10236 Marion Park Drive	Kansas City	MO	64137	
Univ of Missouri - Resource Recovery Center	8 Research Park Development Building	Columbia	MO	65211	573/882-7018

Missouri HMIWI Emission Inventory

3/18/99

Facility	PM (lbs/yr)	CO (lbs/yr)	HCl (lbs/yr)	Dioxin/furan (lbs/yr)	NOx (lbs/yr)	SO ₂ (lbs/yr)	Pb (lbs/yr)	Cd (lbs/yr)	Hg (lbs/yr)
Carroll County Memorial Hospital	87.8	83	537.6	0.00002	36.2	7.6	0.9	0.1	0.9
Independence Regional Health Center	373.3	352.9	2284.8	0.00009	154	32.6	3.8	0.4	3.8
Fairfax Community Hospital	402.6	380.6	2464	0.0001	166.1	35.2	4.1	0.4	4.1
Doctors Regional Medical Center	219.6	207.6	1344	0.00005	90.6	19.2	2.2	0.2	2.2
Hannibal Regional Hospital	831.3	785.8	5087.8	0.0002	342.9	72.6	8.6	0.9	8.4
Jefferson Memorial Hospital	300	40			460	220			
Pemiscot Memorial Hospital	860				440	1160			
Salem Memorial District Hospital	43.9	41.5	268.8	0.00001	18.1	3.8	0.4	0	0.4
St. Francis Hospital	9.7	9.2	59.5	0.000002	4	0.8	0.1	0	0.1
St. John's Regional Medical Center	2745	2595	16800	0.0007	1132.5	240	28.5	3	27.7
St. Joseph Health Center	20.1	19	123.2	0.000005	8.3	1.7	0.2	0	0.2
St. Mary's Hospital of Blue Springs	360	180			220	460			
Ste. Genevieve County Memorial Hospital	475.8	449.8	2912	0.0001	196.3	41.6	4.9	0.5	4.8
General Leonard Wood Community Army Hospital	109.8	103.8	672	0.00003	45.3	9.6	1.1	0.1	1.1
Veterans Affairs Med Ctr-Kansas City	2332.8	2205.4	14277.7	0.0006	962.4	203.9	24.2	2.6	23.6
John J. Pershing Veterans Affairs Medical Center	322.1	304.4	1971.2	0.00008	132.8	28.1	3.3	0.3	3.2
BioTech Services	5900	11740	560		14180	1020	278		
Boehringer Ingelheim Vetmedica, Inc. - Cosby	263.5	249.1	1612.8	0.00006	108.7	23	2.7	0.3	2.7
Boehringer Ingelheim Vetmedica, Inc. - St. Joseph	65.8	62.2	403.2	0.00002	27.1	5.7	0.6	0.1	0.7
The Energy Center - St. Louis University	520	500			620	380	20		
Hoechst Marion Roussel Inc.	40	20			20	40			
Univ of Missouri - Resource Recovery Center	878.4	830.4	5376	0.0002	362.4	76.8	9.12	1	8.9

Appendix A - Missouri Air Conservation Law

MISSOURI AIR CONSERVATION LAW

643.010 SHORT TITLE

This chapter shall be known and may be cited as the "Missouri Air Conservation Law".

643.020 DEFINITIONS

When used in this chapter and in standards, rules and regulations promulgated under authority of this chapter, the following words and phrases mean:

- (1) "AHERA", Asbestos Hazard Emergency Response Act of 1986 (P.L. 99-519);
- (2) "Abatement project designer", an individual who designs or plans AHERA asbestos abatement;
- (3) "Air cleaning device", any method, process, or equipment which removes, reduces, or renders less obnoxious air contaminants discharged into ambient air;
- (4) "Air contaminant", any particulate matter or any gas or vapor or any combination thereof;
- (5) "Air contaminant source", any and all sources of air contaminants whether privately or publicly owned or operated;
- (6) "Air pollution", the presence in the ambient air of one or more air contaminants in quantities, of characteristics and of a duration which directly and proximately cause or contribute to injury to human, plant, or animal life or health or to property or which unreasonably interferes with the enjoyment of life or use of property;
- (7) "Ambient air", all space outside of buildings, stacks, or exterior ducts;
- (8) "Area of the state", any geographical area designated by the commission;
- (9) "Asbestos", the asbestiform varieties of chrysotile, crocidolite, amosite, anthophyllite, tremolite and actinolite;
- (10) "Asbestos abatement", the encapsulation, enclosure or removal of asbestos containing materials in or from a building or air contaminant source, or preparation of friable asbestos containing material prior to demolition;
- (11) "Asbestos abatement contractor", any person who by agreement, contractual or otherwise, conducts asbestos abatement projects at a location other than his own place of business;
- (12) "Asbestos abatement projects", an activity undertaken to encapsulate, enclose or remove ten square feet or sixteen linear feet or more of friable asbestos containing materials from buildings and other air contaminant sources, or to demolish buildings and other air contaminant sources containing ten square feet or sixteen linear feet or more;
- (13) "Asbestos abatement supervisor", an individual who directs, controls, or supervises others in asbestos abatement projects;
- (14) "Asbestos abatement worker", an individual who engages in asbestos abatement projects;
- (15) "Asbestos air sampling professional", an individual who by qualifications and experience is proficient in asbestos abatement air monitoring. The individual shall conduct, oversee or be responsible for air monitoring of asbestos abatement projects before, during and after the project has been completed;

- (16) "Asbestos air sampling technician", an individual who has been trained by an air sampling professional to do air monitoring. Such individual conducts air monitoring of an asbestos abatement project before, during and after the project has been completed;
- (17) "Asbestos containing material", any material or product which contains more than one percent asbestos, by weight;
- (18) "Class A source", either a class A1, A2 or A3 source as defined in this section;
- (19) "Class A1 source", any air contaminant source with the potential to emit equal to or greater than one hundred tons per year of an air contaminant;
- (20) "Class A2 source", any air contaminant source, which is not a class A1 source, and with the potential, air cleaning devices not considered, to emit equal to or greater than one hundred tons per year of an air contaminant;
- (21) "Class A3 source", any air contaminant source which emits or has the potential to emit, ten tons per year or more of any hazardous air pollutant or twenty-five tons of any combination of hazardous air pollutants, or as defined pursuant to section 112 of the federal Clean Air Act, as amended, 42 U.S.C. 7412;
- (22) "Class B source", any air contaminant source with the potential, air cleaning devices not considered, to emit equal to or greater than the de minimis amounts of an air contaminant established by the commission, but not a class A source;
- (23) "Commission", the air conservation commission of the state of Missouri created in section 643.040;
- (24) "Competent person", as defined in the United States Occupational Safety and Health Administration's (OSHA) standard 29 CFR 1926.58 (b). Such person shall also be a certified asbestos abatement supervisor;
- (25) "Conference, conciliation and persuasion", a process of verbal or written communications consisting of meetings, reports, correspondence or telephone conferences between authorized representatives of the department and the alleged violator. The process shall, at a minimum, consist of one offer to meet with the alleged violator tendered by the department. During any such meeting, the department and the alleged violator shall negotiate in good faith to eliminate the alleged violation and shall attempt to agree upon a plan to achieve compliance;
- (26) "De minimis source", any air contaminant source with a potential to emit an air contaminant, air cleaning devices not considered, less than that established by the commission as de minimis for the air contaminant;
- (27) "Department", the department of natural resources of the state of Missouri;
- (28) "Director", the director of the department of natural resources;
- (29) "Emergency asbestos project", an asbestos project that must be undertaken immediately to prevent imminent, severe, human exposure or to restore essential facility operation;
- (30) "Emission", the discharge or release into the atmosphere of one or more air contaminants;
- (31) "Emission control regulations", limitations on the emission of air contaminants into the ambient air;
- (32) "Friable asbestos containing material", any asbestos containing material which is applied to ceilings, walls, structural members, piping, ductwork or any other part

- of a building or other air contaminant sources and which, when dry, may be crumbled, pulverized or reduced to powder by hand pressure;
- (33) "Inspector", an individual, under AHERA, who collects and assimilates information used to determine whether asbestos containing material is present in a building or other air contaminant sources;
 - (34) "Management planner", an individual, under AHERA, who devises and writes plans for asbestos abatement;
 - (35) "Minor violation", a violation which possesses a small potential to harm the environment or human health or cause pollution, was not knowingly committed, and is not defined by the United States Environmental Protection Agency as other than minor;
 - (36) "Nonattainment area", any area designated by the governor as a "nonattainment area" as defined in the federal Clean Air Act, as amended, 42 U.S.C. 7501;
 - (37) "Person", any individual, partnership, copartnership, firm, company, or public or private corporation, association, joint stock company, trust, estate, political subdivision, or any agency, board, department, or bureau of the state or federal government, or any other legal entity whatever which is recognized by law as the subject of rights and duties;
 - (38) "Small business", for the purpose of sections 643.010 to 643.190, a small business shall include any business regulated under this chapter, which is not a class A source and which employs less than one hundred people and emits less than fifty tons of any regulated pollutant per year and less than seventy-five tons of all regulated pollutants or as otherwise defined by the commission by rule.

643.030 INTENT OF LAW--COMMISSION TO CONTROL AIR POLLUTION

The discharge into the ambient air of air contaminants so as to cause or contribute to air pollution is contrary to the public policy of Missouri and in violation of this chapter. It is the intent and purpose of this chapter to maintain purity of the air resources of the state to protect the health, general welfare and physical property of the people, maximum employment and the full industrial development of the state. The commission shall seek the accomplishment of this objective through the prevention, abatement and control of air pollution by all practical and economically feasible methods.

643.040 AIR CONSERVATION COMMISSION CREATED--MEMBERS--TERMS--EXPENSES--MEETINGS

1. There is created hereby an air pollution control agency to be known as the "Air Conservation Commission of the State of Missouri", whose domicile for the purposes of sections 643.010 to 643.190 is the department of natural resources of the state of Missouri. The commission shall consist of seven members appointed by the governor, with the advice and consent of the senate. No more than four of the members shall belong to the same political party and no two members shall be a resident of and domiciled in the same senatorial district. At the first meeting of the commission and at yearly intervals thereafter, the members shall select from among themselves a chairman and a vice chairman.

2. All members shall be representative of the general interest of the public and shall have an interest in and knowledge of air conservation and the effects and control of air contaminants. Three of such members, but not more than three, shall represent agricultural, industrial and labor interests, respectively. The governor shall not appoint any other person who has a substantial interest as defined in section 105.450, RSMo, in any business entity regulated under this chapter or any business entity which would be regulated under this chapter if located in Missouri. The commission shall establish rules of procedure which specify when members shall exempt themselves from participating in discussions and from voting on issues before the commission due to potential conflict of interest.
3. The members' terms of office shall be four years and until their successors are selected and qualified, except that the terms of those first appointed shall be staggered to expire at intervals of one, two and three years after the date of appointment as designated by the governor at the time of appointment. There is no limitation of the number of terms any appointed member may serve. If a vacancy occurs the governor may appoint a member for the remaining portion of the unexpired term created by the vacancy. The governor may remove any appointed member for cause. The members of the commission shall be reimbursed for travel and other expenses actually and necessarily incurred in the performance of their duties.
4. The commission shall hold at least nine regular meetings each year and such additional regular meetings as the chairman deems desirable at a place and time to be fixed by the chairman. Special meetings may be called by three members of the commission upon delivery of written notice to each member of the commission. Reasonable written notice of all meetings shall be given to all members of the commission. Four members of the commission shall constitute a quorum. All powers and duties conferred upon members of the commission shall be exercised personally by the members and not by alternates or representatives. All actions of the commission shall be taken at meetings open to the public, except as provided in chapter 610, RSMo. Any member absent from four regular commission meetings per calendar year for any cause whatsoever shall be deemed to have resigned and the vacancy shall be filled immediately in accordance with subsection 1 and subsection 3 of this section.

643.050 POWERS AND DUTIES OF COMMISSION--RULES, PROCEDURE

1. In addition to any other powers vested in it by law the commission shall have the following powers:
 - (1) Adopt, promulgate, amend and repeal rules and regulations consistent with the general intent and purposes of sections 643.010 to 643.190, chapter 536, RSMo, and Titles V and VI of the federal Clean Air Act, as amended, 42 U.S.C. 7661, et seq., including but not limited to:
 - (a) Regulation of use of equipment known to be a source of air contamination;
 - (b) Establishment of maximum quantities of air contaminants that may be emitted from any air contaminant source; and
 - (c) Regulations necessary to enforce the provisions of Title VI of the Clean Air Act, as amended, 42 U.S.C. 7671, et seq., regarding any Class I or Class II substances as defined therein;

- (2) After holding public hearings in accordance with section 643.070, establish areas of the state and prescribe air quality standards for such areas giving due recognition to variations, if any, in the characteristics of different areas of the state which may be deemed by the commission to be relevant;
- 3)
 - (a) To require persons engaged in operations which result in air pollution to monitor or test emissions and to file reports containing information relating to rate, period of emission and composition of effluent;
 - (b) Require submission to the director for approval of plans and specifications for any article, machine, equipment, device, or other contrivance specified by regulation the use of which may cause or control the issuance of air contaminants; but any person responsible for complying with the standards established under sections 643.010 to 643.190 shall determine, unless found by the director to be inadequate, the means, methods, processes, equipment and operation to meet the established standards;
- (4) Hold hearings upon appeals from orders of the director or from any other actions or determinations of the director hereunder for which provision is made for appeal, and in connection therewith, issue subpoenas requiring the attendance of witnesses and the production of evidence reasonably relating to the hearing;
- (5) Enter such order or determination as may be necessary to effectuate the purposes of sections 643.010 to 643.190. In making its orders and determinations hereunder, the commission shall exercise a sound discretion in weighing the equities involved and the advantages and disadvantages to the person involved and to those affected by air contaminants emitted by such person as set out in section 643.030. If any small business, as defined by section 643.020, requests information on what would constitute compliance with the requirements of sections 643.010 to 643.190 or any order or determination of the department or commission, the department shall respond with written criteria to inform the small business of the actions necessary for compliance. No enforcement action shall be undertaken by the department or commission until the small business has had a period of time, negotiated with the department, to achieve compliance;
- (6) Cause to be instituted in a court of competent jurisdiction legal proceedings to compel compliance with any final order or determination entered by the commission or the director;
- (7) Settle or compromise in its discretion, as it may deem advantageous to the state, any suit for recovery of any penalty or for compelling compliance with the provisions of any rule;
- (8) Develop such facts and make such investigations as are consistent with the purposes of sections 643.010 to 643.190, and, in connection therewith, to enter or authorize any representative of the department to enter at all reasonable times and upon reasonable notice in or upon any private or public property for the purpose of inspecting or investigating any condition which the commission or director shall have probable cause to believe to be an air contaminant source. The results of any such investigation shall be reduced to writing, and a copy thereof shall be furnished to the owner or operator of the property. No person shall refuse entry or access, requested for purposes of inspection under this provision, to an authorized representative of the department who presents appropriate credentials, nor

obstruct or hamper the representative in carrying out the inspection. A suitably restricted search warrant, upon a showing of probable cause in writing and upon oath, shall be issued by any judge having jurisdiction to any such representative for the purpose of enabling him to make such inspection;

- (9) Secure necessary scientific, technical, administrative and operational services, including laboratory facilities, by contract or otherwise, with any educational institution, experiment station, or any board, department, or other agency of any political subdivision or state or the federal government;
 - (10) Classify and identify air contaminants; and
 - (11) Hold public hearings as required by sections 643.010 to 643.190.
2. No rule or portion of a rule promulgated under the authority of this chapter shall become effective unless it has been promulgated pursuant to the provisions of section 536.024, RSMo.
 3. The commission shall have the following duties with respect to the prevention, abatement and control of air pollution:
 - (1) Prepare and develop a general comprehensive plan for the prevention, abatement and control of air pollution;
 - (2) Encourage voluntary cooperation by persons or affected groups to achieve the purposes of sections 643.010 to 643.190;
 - (3) Encourage political subdivisions to handle air pollution problems within their respective jurisdictions to the extent possible and practicable and provide assistance to political subdivisions;
 - (4) Encourage and conduct studies, investigations and research;
 - (5) Collect and disseminate information and conduct education and training programs;
 - (6) Advise, consult and cooperate with other agencies of the state, political subdivisions, industries, other states and the federal government, and with interested persons or groups;
 - (7) Represent the state of Missouri in all matters pertaining to interstate air pollution including the negotiations of interstate compacts or agreements.
 4. Nothing contained in sections 643.010 to 643.190 shall be deemed to grant to the commission or department any jurisdiction or authority with respect to air pollution existing solely within commercial and industrial plants, works, or shops or to affect any aspect of employer-employee relationships as to health and safety hazards.
 5. Any information relating to secret processes or methods of manufacture or production discovered through any communication required under this section shall be kept confidential.

643.055 COMMISSION MAY ADOPT RULES FOR COMPLIANCE WITH FEDERAL LAW--SUSPENSION, REINSTATEMENT--EXEMPTION, LIMITATIONS

1. Other provisions of law notwithstanding, the Missouri air conservation commission shall have the authority to promulgate rules and regulations, pursuant to chapter 536, RSMo, to establish standards and guidelines to ensure that the state of Missouri is in compliance with the provisions of the federal Clean Air Act, as amended (42 U.S.C. Section 7401, et seq.). The standards and guidelines so established shall not be any stricter than those required under the provisions of the federal Clean Air Act, as amended; nor shall those

standards and guidelines be enforced in any area of the state prior to the time required by the federal Clean Air Act, as amended. The restrictions of this section shall not apply to the parts of a state implementation plan developed by the commission to bring a nonattainment area into compliance and to maintain compliance when needed to have a United States Environmental Protection Agency approved state implementation plan. The determination of which parts of a state implementation plan are not subject to the restrictions of this section shall be based upon specific findings of fact by the air conservation commission as to the rules, regulations and criteria that are needed to have a United States Environmental Protection Agency approved plan.

2. The Missouri air conservation commission shall also have the authority to grant exceptions and variances from the rules set under subsection 1 of this section when the person applying for the exception or variance can show that compliance with such rules:
 - (1) Would cause economic hardship; or
 - (2) Is physically impossible; or
 - (3) Is more detrimental to the environment than the variance would be; or
 - (4) Is impractical or of insignificant value under the existing conditions.

643.060 POWERS AND DUTIES OF DIRECTOR

In addition to any other powers vested by law, the director shall have the following powers and duties:

- (1) Retain, employ, provide for, and compensate, within appropriations available therefor, such consultants, assistants, deputies, clerks, and other employees on a full- or part-time basis as may be necessary to carry out the provisions of sections 643.010 to 643.190 and prescribe the times at which they shall be appointed and their powers and duties;
- (2) Accept, receive and administer grants or other funds or gifts from public and private agencies including the federal government for the purpose of carrying out any of the functions of sections 643.010 to 643.190. The director shall apply for all available grants and funds authorized and distributed pursuant to Title XI of the federal Clean Air Act, as amended, 29 U.S.C. 1662e, for training, assistance and payments to eligible individuals. The director shall report annually to the governor and the general assembly, the amount of revenue received under Title XI of the Clean Air Act and the distribution of such funds to eligible persons. Funds received by the director pursuant to this section shall be deposited with the state treasurer and held and disbursed by him in accordance with the appropriations of the general assembly. The director is authorized to enter into contracts as he may deem necessary for carrying out the provisions of sections 643.010 to 643.190;
- (3) Budget and receive duly appropriated moneys for expenditures to carry out the provisions and purposes of sections 643.010 to 643.190;
- (4) Administer and enforce sections 643.010 to 643.190, investigate complaints, issue orders and take all actions necessary to implement sections 643.010 to 643.190;
- (5) Receive and act upon reports, plans, specifications and applications submitted under rules promulgated by the commission. Any person aggrieved by any action of the director under this provision shall be entitled to a hearing before the commission as provided in section 643.080. The commission may sustain, reverse,

or modify any action of the director taken under this provision, or make such other order as the commission shall deem appropriate under the circumstances.

643.070 COMMISSION TO ADOPT RULES, NOTICE-PUBLIC HEARING

1. The commission shall adopt rules pursuant to chapter 536, RSMo. The commission shall notify any air pollution control agency with a certificate of authority which may be affected by the rule and any person who has previously requested notice when the proposed rulemaking is submitted to the secretary of state for publication in the Missouri Register. In addition, any interested persons, whether or not heard, may submit, within seven days subsequent to the hearings, a written statement of their views. The commission may solicit the views, in writing, of persons who may be affected by, or interested in, proposed rules and regulations, or standards. Any person heard or represented at the hearing or making written request for notice shall be given written notice of the action of the commission with respect to the subject thereof.
2. Rules shall be approved after public hearing and shall be approved in writing by at least four members of the commission.
3. Any rule or any amendment or repeal thereof which is adopted by the commission may differ in its terms and provisions for particular types and conditions of air pollution or air contamination, for particular air contaminant sources, and for particular areas of the state.

643.073 PROCEDURE FOR SUBMISSION OF APPLICATIONS, FEE

1. The commission shall establish, by rule, a procedure for the orderly submission of applications for an operating permit by those regulated air contaminant sources in operation on August 28, 1992, and procedures for the issuance of operating permits. Any person who operates an air contaminant source on or after August 28, 1992, shall submit to the department, with the application, payment of a one hundred-dollar fee with the request for the approval of an operating permit.
2. Any person who wishes to construct or modify and operate any regulated air contaminant source shall submit an application to the department. The commission shall establish, by rule, procedures for the orderly submission of applications for those persons that wish to construct or modify and operate any regulated air contaminant source and procedures for the issuance of a permit to construct or modify and operate. The department shall review applications within the time period established in sections 643.075 and 643.078 or under section 502 of the federal Clean Air Act, as amended, 42 U.S.C. 7661, as appropriate, unless an extension is requested by the applicant and approved by the director. Each applicant must obtain both a construction permit and an operating permit but the department shall establish a unified review, hearing and approval process. The holder of a valid operating permit shall have operational flexibility to make changes to any air contaminant source under the provisions of subsection 14 of section 643.078 without submitting an application for an operating permit under this section.

Appendix B - Rule 10 CSR 10-6.200 Hospital, Medical, Infectious Waste Incinerators

**Title 10 - DEPARTMENT OF
NATURAL RESOURCES**

Division 10 - Air Conservation Commission

**Chapter 6 - Air Quality Standards, Definitions, Sampling and Reference Methods and Air
Pollution Control Regulations for the Entire State of Missouri**

10 CSR 10-6.200 Hospital, Medical, Infectious Waste Incinerators

- (1) Applicability.
- (A) Except as provided in subsection (1)(B) through (H) of this rule, this rule applies to each individual Hospital or Medical/Infectious Waste Incinerator (HMIWI) for which construction was commenced on or before June 20, 1996.
 - (B) A combustor is not subject to this rule during periods when only pathological waste, low-level radioactive waste, and/or chemotherapeutic waste is burned, provided the owner or operator of the combustor—
 - 1. Notifies the director of an exemption claim; 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.
 - (C) Any co-fired combustor is not subject to this rule if the owner or operator of the co-fired combustor—
 - 1. Notifies the director of an exemption claim;
 - 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.
 - (D) Any combustor required to have a permit under Section 3005 of the Solid Waste Disposal Act is not subject to this rule.
 - (E) Any combustor which meets the applicability requirements under subpart Cb, Ea, or Eb of 40 CFR part 60 is not subject to this rule.
 - (F) Any pyrolysis unit is not subject to this rule.
 - (G) Cement kilns firing hospital waste and/or medical/infectious waste are not subject to this rule.
 - (H) Physical or operational changes made to an existing HMIWI unit solely for the purpose of complying with this rule are not considered a modification and do not result in an existing HMIWI unit becoming subject to the provisions of 40 CFR part 60 subpart Ec.
 - (I) Beginning September 15, 2000, designated facilities subject to this rule shall operate pursuant to a permit issued under the permitting authorities operating permit program.

- (2) Definitions.
- (A) Batch HMIWI means an HMIWI that is designed such that neither waste charging nor ash removal can occur during combustion.
 - (B) Biologicals means 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.
 - (C) Bypass stack means a device used for discharging combustion gases to avoid severe damage to the air pollution control device or other equipment.
 - (D) Chemotherapeutic waste means waste material resulting from the production or use of antineoplastic agents used for the purpose of stopping or reversing the growth of malignant cells.
 - (E) Co-fired combustor means a unit combusting hospital waste and/or medical/infectious waste with other fuels or wastes and subject to an enforceable requirement limiting the unit to combusting a fuel feed stream, ten percent (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.
 - (F) Continuous HMIWI means an HMIWI that is designed to allow waste charging and ash removal during combustion.
 - (G) Department means the Department of Natural Resources.
 - (H) Dioxins/furans means the combined emission of tetra- through octa-chlorinated dibenzo-para-dioxins and dibenzofurans.
 - (I) Director means the director of the Department of Natural Resources.
 - (J) Dry scrubber means 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 HMIWI exhaust stream forming a dry powder material.
 - (K) Hospital means any facility which has an organized medical staff, maintains at least six (6) 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 twenty-four (24) hours per admissions. 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.
 - (L) Hospital/medical/infectious waste incinerator or HMIWI or HMIWI unit means any device that combusts any amount of hospital waste and/or medical/infectious waste.
 - (M) Hospital waste means 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.
 - (N) Intermittent HMIWI means an HMIWI that is designed to allow waste charging, but not ash removal, during combustion.
 - (O) Large HMIWI means an HMIWI whose maximum design waste burning capacity is more than five hundred (500) pounds per hour, or a continuous or intermittent HMIWI whose maximum charge rate is more than five hundred (500) pounds per

hour, or a batch HMIWI whose maximum charge rate is more than four thousand (4,000) pounds per day.

- (P) Low-level radioactive waste means waste material which contains radioactive nuclides 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 U.S.C. 2014(e)(2)).
- (Q) Maximum charge rate means for continuous and intermittent HMIWI, one hundred ten percent (110%) of the lowest three (3)-hour average charge rate measured during the most recent performance test demonstrating compliance with all applicable emission limits or for batch HMIWI, one hundred ten percent (110%) of the lowest daily charge rate measured during the most recent performance test demonstrating compliance with all applicable emission limits.
- (R) Maximum fabric filter inlet temperature means one hundred ten percent (110%) of the lowest three (3)-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.
- (S) Maximum flue gas temperature means one hundred ten percent (110) of the lowest three (3)-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.
- (T) Medical/infectious waste means 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 biologicals that is listed below—
1. 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;
 2. 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;
 3. Human blood and blood products including:
 - A. Liquid waste human blood;
 - B. Products of blood;
 - C. Items saturated and/or dripping with human blood; and
 - D. 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;
 4. 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 used slides and cover slips;

5. 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;
 6. 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; or
 7. Unused sharps including the following unused, discarded sharps: hypodermic needles, suture needles, syringes, and scalpel blades.
- (U) Medium HMIWI means an HMIWI whose maximum design waste burning capacity is more than two hundred (200) pounds per hour but less than or equal to five hundred (500) pounds per hour, or a continuous or intermittent HMIWI whose maximum charge rate is more than two hundred (200) pounds per hour but less than or equal to five hundred (500) pounds per hour, or a batch HMIWI whose maximum charge rate is more than one thousand six hundred (1,600) pounds per day but less than or equal to four thousand (4,000) pounds per day.
- (V) Minimum dioxin/furan sorbent flow rate means ninety percent (90%) of the highest three (3)-hour average dioxin/furan sorbent flow rate (taken, at a minimum, once every hour) measured during the most recent performance test demonstrating compliance with the dioxin/furan emission limit.
- (W) Minimum Hg sorbent flow rate means ninety percent (90%) of the highest three (3)-hour average Hg sorbent flow rate (taken, at a minimum, once every hour) measured during the most recent performance test demonstrating compliance with the Hg emission limit.
- (X) Minimum hydrogen chloride (HCl) sorbent flow rate means ninety percent (90%) of the highest three (3)-hour average HCl sorbent flow rate (taken, at a minimum, once every hour) measured during the most recent performance test demonstrating compliance with the HCl emission limit.
- (Y) Minimum horsepower or amperage means ninety percent (90%) of the highest three (3)-hour average horsepower or amperage to the wet scrubber (taken, at a minimum, once every minute) measured during the most recent performance test demonstrating compliance with the applicable emission limit.
- (Z) Minimum pressure drop across the wet scrubber means ninety percent (90%) of the highest three (3)-hour average pressure drop across the wet scrubber particulate matter (PM) control device (taken, at a minimum, once every minute) measured during the most recent performance test demonstrating compliance with the PM emission limit.
- (AA) Minimum scrubber liquor flow rate means ninety percent (90%) of the highest three (3)-hour average liquor flow rate at the inlet to the wet scrubber (taken, at a

- minimum, once every minute) measured during the most recent performance test demonstrating compliance with all applicable emission limits.
- (BB) Minimum scrubber liquor pH means ninety percent (90%) of the highest three (3)-hour average liquor pH at the inlet to the wet scrubber (taken, at a minimum, once every minute) measured during the most recent performance test demonstrating compliance with all HCl emission limit.
 - (CC) Minimum secondary chamber temperature means ninety percent (90%) of the highest three (3)-hour average secondary chamber temperature (taken, at a minimum, once every minute) measured during the most recent performance test demonstrating compliance with the PM, carbon monoxide (CO), or dioxin/furan emission limits.
 - (DD) Pathological waste means 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).
 - (EE) Pyrolysis means the endothermic gasification of hospital waste and/or medical/infectious waste using external energy.
 - (FF) Small HMIWI means an HMIWI whose maximum design waste burning capacity is less than or equal to two hundred (200) pounds per hour, or a continuous or intermittent HMIWI whose maximum charge rate is less than or equal to two hundred (200) pounds per hour, or a batch HMIWI whose maximum charge rate is less than or equal to one thousand six hundred (1,600) pounds per day.
 - (GG) Standard Metropolitan Statistical Area or SMSA means any areas listed in Office of Management and Budget Bulletin No. 93-17 entitled "Revised Statistical Definitions for Metropolitan Areas" date June 30, 1993 (incorporated by reference).
 - (HH) Wet scrubber means an add-on air pollution control device that utilizes an alkaline scrubbing liquor to collect particulate matter (including nonvaporous metals and condensed organics) and/or to absorb and neutralize acid gases.
- (3) General Provisions.
- (A) Emission Limits.
 - 1. On or after the date on which the initial performance test is completed or September 1, 2000, whichever date comes first, no owner or operator of an existing HMIWI shall cause to be discharged into the atmosphere from that HMIWI any gases that contain stack emissions in excess of the limits presented in Table 1 of this subsection, except as provided for in paragraph (3)(A)2. of this rule.

TABLE 1. EMISSION LIMITS FOR SMALL, MEDIUM, AND LARGE HMIWI

Pollutant	Units (7 percent oxygen, dry basis)	Emission limits		
		HMIWI size		
		Small	Medium	Large
Particulate matter	milligrams per dry standard cubic meter (grains per dry standard cubic foot)	115 (0.05)	69 (0.03)	34 (0.015)
Carbon monoxide	parts per million by volume	40	40	40
Dioxins/furans	nanograms per dry standard cubic meter total dioxins/furans (grains per billion dry standard cubic feet) or nanograms per dry standard cubic meter TEQ (grains per billion dry standard cubic feet)	125 (55) 2.3 (1.0)	125 (55) 2.3 (1.0)	125 (55) 2.3 (1.0)
Hydrogen chloride	parts per million by volume or percent reduction	100 or 93 %	100 or 93 %	100 or 93 %
Sulfur dioxide	parts per million by volume	55	55	55
Nitrogen oxides	parts per million by volume	250	250	250
Lead	milligrams per dry standard cubic meter (grains per thousand dry standard cubic feet) or percent reduction	1.2 (0.52) or 70 %	1.2 (0.52) or 70 %	1.2 (0.52) or 70 %
Cadmium	milligrams per dry standard cubic meter (grains per thousand dry standard cubic feet) or percent reduction	0.16 (0.07) or 65 %	0.16 (0.07) or 65 %	0.16 (0.07) or 65 %

		Emission limits		
Mercury	milligrams per dry standard cubic meter (grains per thousand dry standard cubic feet) or percent reduction	0.55 (0.24) or 85 %	0.55 (0.24) or 85 %	0.55 (0.24) or 85 %

2. Small rural HMIWI located more than fifty (50) miles from the boundary of the nearest Standard Metropolitan Statistical Area and which burns less than two thousand (2,000) pounds per week of hospital waste and medical/infectious waste shall comply with the emission limits described in subparagraphs (3)(A)2.A. and B. of this rule. The two thousand (2,000) pounds per week limitation does not apply during performance tests.
- A. On or after the date on which the initial equipment inspection is completed or September 1, 2000, whichever date comes first, no owner or operator of an existing small rural HMIWI shall cause to be discharged into the atmosphere from that HMIWI any gases that contain stack emissions in excess of the limits presented in Table 2 of this subparagraph.

TABLE 2. EMISSION LIMITS FOR SMALL RURAL HMIWI

Pollutant	Units (7 percent oxygen, dry basis)	HMIWI Emission limits
Particulate matter	milligrams per dry standard cubic meter (grains per dry standard cubic foot)	197 (0.086)
Carbon monoxide	parts per million by volume	40
Dioxins/furans	nanograms per dry standard cubic meter total dioxins/furans (grains per billion dry standard cubic feet) or nanograms per dry standard cubic meter TEQ (grains per billion dry standard cubic feet)	800 (350) or 15 (6.6)
Hydrogen chloride	parts per million by volume	3100
Sulfur dioxide	parts per million by volume	55

Nitrogen oxides	parts per million by volume	250
Lead	milligrams per dry standard cubic meter (grains per thousand dry standard cubic feet)	10 (4.4)
Cadmium	milligrams per dry standard cubic meter (grains per thousand dry standard cubic feet)	4 (1.7)
Mercury	milligrams per dry standard cubic meter (grains per thousand dry standard cubic feet)	7.5 (3.3)

- B. On or after the date on which the initial inspection is completed or September 1, 2000, whichever date comes first, no owner or operator of an existing small rural HMIWI shall cause to be discharged into the atmosphere from the stack of that HMIWI any gases that exhibit greater than ten percent (10%) opacity (six (6)-minute block average).
3. On or after the date on which the initial performance test is completed or September 1, 2000, whichever date comes first, no owner or operator of an existing HMIWI shall cause to be discharged into the atmosphere from the stack of that HMIWI any gases that exhibit greater than ten percent (10%) opacity (six (6)-minute block average).
- (B) Operator Training and Qualification Requirements.
1. No owner or operator of an existing HMIWI shall allow the HMIWI to operate at any time unless a fully trained and qualified HMIWI operator is accessible, either at the facility or available within one (1) hour. The trained and qualified HMIWI operator may operate the HMIWI directly or be the direct supervisor of one (1) or more HMIWI operators.
 2. Operator training and qualification shall be obtained by completing the requirements included in paragraphs (3)(B)3. through 7. of this rule.
 3. Training shall be obtained by completing an HMIWI operator training course that includes, at a minimum, the following provisions:
 - A. Twenty-four (24) hours of training on the following subjects:
 - (I) Environmental concerns, including pathogen destruction and types of emissions;
 - (II) Basic combustion principles, including products of combustion;
 - (III) Operation of the type of incinerator to be used by the operator, including proper startup, waste charging, and shutdown procedures;
 - (IV) Combustion controls and monitoring;
 - (V) Operation of air pollution control equipment and factors affecting performance (if applicable);
 - (VI) Methods to monitor pollutants and equipment calibration procedures (where applicable);

- (VII) Inspection and maintenance of the HMIWI, air pollution control devices, and continuous emission monitoring systems;
 - (VIII) Actions to correct malfunctions or conditions that may lead to malfunction;
 - (IX) Bottom and fly ash characteristics and handling procedures;
 - (X) Applicable Federal, State, and local regulations;
 - (XI) Work safety procedures;
 - (XII) Pre-startup inspections; and
 - (XIII) Recordkeeping requirements;
- B. An examination designed and administered by the instructor; and
 - C. Reference material distributed to the attendees covering the course topics.
4. Qualifications shall be obtained by–
 - A. Completion of a training course that satisfies the criteria under paragraph (3)(B)3. of this rule; and
 - B. Either six (6) months experience as an HMIWI operator, six (6) months experience as a direct supervisor of an HMIWI operator, or completion of at least two (2) burn cycles under the observation of two (2) qualified HMIWI operators.
 5. Qualification is valid from the date on which the examination is passed or the completion of the required experience, whichever is later.
 6. To maintain qualification, the trained and qualified HMIWI operator shall complete and pass an annual review or refresher course of at least four (4) hours covering, at a minimum, the following:
 - A. Update of regulations;
 - B. Incinerator operation, including startup and shutdown procedures;
 - C. Inspection and maintenance;
 - D. Responses to malfunctions or conditions that may lead to malfunction; and
 - E. Discussion of operating problems encountered by attendees.
 7. A lapsed qualification shall be renewed by one (1) of the following methods:
 - A. For a lapse of less than three (3) years, the HMIWI operator shall complete and pass a standard annual refresher course described in paragraph (3)(B)6. of this rule; or
 - B. For a lapse of three (3) years or more, the HMIWI operator shall complete and pass a training course with the minimum criteria described in paragraph (3)(B)3. of this rule.
 8. The owner or operator of an HMIWI shall maintain documentation at the facility that address the following:
 - A. Summary of the applicable standards under this subpart;
 - B. Description of basic combustion theory applicable to an HMIWI;
 - C. Procedures for receiving, handling, and charging waste;
 - D. HMIWI startup, shutdown, and malfunction procedures;
 - E. Procedures for maintaining proper combustion air supply levels;

- F. Procedures for operating the HMIWI and associated air pollution control systems within the standards established under this subpart;
 - G. Procedures for responding to periodic malfunction or conditions that may lead to malfunction;
 - H. Procedures for monitoring HMIWI emissions;
 - I. Reporting and recordkeeping procedures; and
 - J. Procedures for handling ash.
9. The owner or operator of an HMIWI shall establish a program for reviewing the information listed in paragraph (3)(B)8. of this rule annually with each HMIWI operator.
- A. The initial review of the information listed in paragraph (3)(B)8. of this rule shall be conducted within six (6) months after the effective date of this rule or prior to assumption of responsibilities affecting HMIWI operation, whichever date is later.
 - B. Subsequent reviews of the information listed in paragraph (3)(B)8. of this rule shall be conducted annually.
10. The information listed in paragraph (3)(B)8. of this rule shall be kept in a readily accessible location for all HMIWI operators. This information, along with records of training shall be available for inspection by the department or its delegated enforcement agent upon request.
- (C) **Waste Management Plan.** The owner or operator of an HMIWI shall prepare a waste management plan. The waste management 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 waste management 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* (incorporated by reference) shall be considered in the development of the waste management plan.
- (D) **Inspection Guidelines.**
- 1. Each small rural HMIWI subject to the emission limits under paragraph (3)(A)2. of this rule shall undergo an initial equipment inspection by September 1, 2000.
 - A. At a minimum, an inspection shall include the following:
 - (I) Inspect all burners, pilot assemblies, and pilot sensing devices for proper operation;
 - (II) Ensure proper adjustment of primary and secondary chamber combustion air;

- (III) Inspect hinges and door latches;
 - (IV) Inspect dampers, fans and blowers for proper operation;
 - (V) Inspect HMIWI door and door gaskets for proper sealing;
 - (VI) Inspect motors for proper operation;
 - (VII) Inspect primary chamber refractory lining;
 - (VIII) Inspect incinerator shell for corrosion and/or hot spots;
 - (IX) Inspect secondary/tertiary chamber and stack;
 - (X) Inspect mechanical loader, including limit switches, for proper operation, if applicable;
 - (XI) Visually inspect waste bed (grates);
 - (XII) For the burn cycle that follows the inspection, document that the incinerator is operating properly;
 - (XIII) Inspect air pollution control devices for proper operation, if applicable;
 - (XIV) Inspect waste heat boiler systems to ensure proper operation, if applicable;
 - (XV) Inspect bypass stack components;
 - (XVI) Ensure proper calibration of thermocouples, sorbent feed systems and any other monitoring equipment; and
 - (XVII) Generally observe that the equipment is maintained in good operating condition.
- B. Within ten (10) operating days following an equipment inspection all necessary repairs shall be completed unless the owner or operator obtains written approval from the department or local air pollution control authority establishing a date whereby all necessary repairs of the designated facility shall be completed.
2. Each small rural HMIWI subject to the emission limits under paragraph (3)(A)2. of this rule shall undergo an equipment inspection annually (no more than twelve (12) months following the previous annual equipment inspection), as outlined in subparagraphs (3)(D)1.A. and B. of this rule.
- (E) Compliance and Performance Testing.
- 1. The emission limits under this rule 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 HMIWI during startup, shutdown, or malfunction.
 - 2. Except as provided in paragraph (3)(E)11. of this rule, the owner or operator of an HMIWI shall conduct an initial performance test to determine compliance with the emission limits using the procedures and test methods listed in subparagraphs (3)(E)2.A. through K. of this rule. The use of the bypass stack during a performance test shall invalidate the performance test.
 - A. All performance tests shall consist of a minimum of three (3) test runs conducted under representative operating conditions.
 - B. The minimum sample time shall be one (1) hour per test run unless otherwise indicated.
 - C. EPA Reference Method 1 of 40 CFR part 60, appendix A

(incorporated by reference) shall be used to select the sampling location and number of traverse points.

- D. EPA Reference Method 3 or 3A of 40 CFR part 60, appendix A (incorporated by reference) shall be used for gas composition analysis, including measurement of oxygen concentration. EPA Reference Method 3 or 3A shall be used simultaneously with each reference method.
- E. The pollutant concentrations shall be adjusted to seven percent (7 %) oxygen using the following equation:

$$C_{adj} = C_{meas} (20.9 - 7) / (20.9 - \% O_2)$$

where:

C_{adj} = pollutant concentration adjusted to 7 percent oxygen

C_{meas} = pollutant concentration measured on a dry basis

$(20.9 - 7)$ = 20.9 percent oxygen – 7 percent oxygen
(defined oxygen correction basis)

20.9 = oxygen concentration in air, percent

$\% O_2$ = oxygen concentration measured on a dry basis,
percent

- F. EPA Reference Method 5 or 29 of 40 CFR part 60, appendix A (incorporated by reference) shall be used to measure the PM emissions.
- G. EPA Reference Method 9 of 40 CFR part 60, appendix A (incorporated by reference) shall be used to measure stack opacity.
- H. EPA Reference Method 10 or 10B of 40 CFR part 60, appendix A (incorporated by reference) shall be used to measure the CO emissions.
- I. EPA Reference Method 23 of 40 CFR part 60, appendix A (incorporated by reference) shall be used to measure total dioxin/furan emissions. The minimum sample time shall be four (4) hours per test run. If the affected facility has selected the toxic equivalency standards for dioxin/furans the following procedures shall be used to determine compliance:
- (I) Measure the concentration of each dioxin/furan tetra-through octa-congener emitted using EPA Reference Method 23;
 - (II) For each dioxin/furan congener measured in accordance with part (3)(E)2.I.(I) of this rule, multiply the congener concentration by its corresponding toxic equivalency factor specified in Table 3 of this part; and

TABLE 3. TOXIC EQUIVALENCY FACTORS

Dioxin/furan congener	Toxic equivalency factor
2,3,7,8-tetrachlorinated dibenzo-p-dioxin	1
1,2,3,7,8-pentachlorinated dibenzo-p-dioxin	0.5
1,2,3,4,7,8-hexachlorinated dibenzo-p-dioxin	0.1
1,2,3,7,8,9-hexachlorinated dibenzo-p-dioxin	0.1
1,2,3,6,7,8-hexachlorinated dibenzo-p-dioxin	0.1
1,2,3,4,6,7,8-heptachlorinated dibenzo-p-dioxin	0.01
octachlorinated dibenzo-p-dioxin	0.001
2,3,7,8-tetrachlorinated dibenzofuran	0.1
2,3,4,7,8-pentachlorinated dibenzofuran	0.5
1,2,3,7,8-pentachlorinated dibenzofuran	0.05
1,2,3,4,7,8-hexachlorinated dibenzofuran	0.1
1,2,3,6,7,8-hexachlorinated dibenzofuran	0.1
1,2,3,7,8,9-hexachlorinated dibenzofuran	0.1
2,3,4,6,7,8-hexachlorinated dibenzofuran	0.1
1,2,3,4,6,7,8-heptachlorinated dibenzofuran	0.01
1,2,3,4,7,8,9-heptachlorinated dibenzofuran	0.01
octachlorinated dibenzofuran	0.001

(III) Sum the products calculated in accordance with part (3)(E)2.I.(II) of this rule to obtain the total concentration of dioxins/furans emitted in terms of toxic equivalency.

J. EPA Reference Method 26 of 40 CFR part 60, appendix A (incorporated by reference) shall be used to measure HCl emissions. If the affected facility has selected the percentage reduction standards for HCl under section (3) of this rule, the percentage reduction in HCl emissions (%R_{HCl}) is computed using the following formula:

$$(\%R_{HCl}) = \frac{(E_i - E_o)}{E_i} \times 100$$

where:

$\%R_{HCl}$ = percentage reduction of HCl emission achieved
 E_i = HCl emission concentration measured at the control device inlet, corrected to 7 percent oxygen (dry basis)

E_o = HCl emission concentration measured at the control device outlet, corrected to 7 percent oxygen (dry basis)

- K. EPA Reference Method 29 shall be used to measure Lead (Pb), Cadmium (Cd), and Hg emissions. If the affected facility has selected the percentage reduction standards for metals under section (3) of this rule, the percentage reduction in emissions ($\%R_{metal}$) is computed using the following formulas:

$$(\%R_{metal}) = \frac{(E_i - E_o)}{E_i} \times 100$$

where:

$\%R_{metal}$ = percentage reduction of metal emission (Pb, Cd, or Hg) achieved

E_i = metal emission concentration (Pb, Cd, or Hg) measured at the control device inlet, corrected to 7 percent oxygen (dry basis)

E_o = metal emission concentration (Pb, Cd, or Hg) measured at the control device outlet, corrected to 7 percent oxygen (dry basis)

3. Following the date on which the initial performance test is completed or September 1, 2000, 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 twelve (12) months following the previous performance test) using the applicable procedures and test methods listed in paragraph (3)(E)2. of this rule;
- B. Determine compliance with the PM, CO, and HCl emission limits by conducting an annual performance test (no more than twelve (12) months following the previous performance test) using the applicable procedures and test methods listed in paragraph (3)(E)2. of this rule. If all three (3) performance tests over a three (3)-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 (2) years. At a minimum, a performance test for PM, CO, and HCl shall be conducted every third year (no more than thirty-six (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 (2) 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 (3)-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 Emission Monitoring System (CEMS) to demonstrate compliance with any of the emission limits under section (3) of this rule shall—
 - (I) Determine compliance with the appropriate emission limit(s) using a twelve (12)-hour rolling average, calculated each hour as the average of the previous twelve (12) operating hours (not including startup, shutdown, or malfunction); and
 - (II) Operate all CEMS in accordance with the applicable procedures under appendices B and F of 40 CFR part 60 (incorporated by reference).
- 4. The owner or operator of an affected facility equipped with a dry scrubber followed by a fabric filter, a wet scrubber, or a dry scrubber followed by a fabric filter and wet scrubber shall—
 - A. Establish the appropriate maximum and minimum operating parameters, indicated in Table 4 of this subparagraph for each control system, as site specific operating parameters during the initial performance test to determine compliance with the emission limits; and

TABLE 4. OPERATING PARAMETERS TO BE MONITORED AND MINIMUM MEASUREMENT AND RECORDING FREQUENCIES

Operating parameters to be monitored	Minimum frequency		Control system		
	Data measurement	Data recording	Dry scrubber followed by fabric filter	Wet scrubber	Dry scrubber followed by fabric filter and wet scrubber
MAXIMUM OPERATING PARAMETERS					
Maximum charge rate	Continuous	1 per hour	✓	✓	✓
Maximum fabric filter inlet temperature	Continuous	1 per minute	✓		✓
Maximum flue gas temperature	Continuous	1 per minute		✓	✓
MINIMUM OPERATING PARAMETERS					
Minimum secondary chamber temperature	continuous	1 per minute	✓	✓	✓
Minimum dioxin/furan sorbent flow rate	hourly	1 per hour	✓		✓
Minimum HCl sorbent flow rate	hourly	1 per hour	✓		✓
Minimum mercury (Hg) sorbent flow rate	hourly	1 per hour	✓		✓
Minimum pressure drop across the wet scrubber or minimum horsepower or amperage to wet scrubber	continuous	1 per minute		✓	✓
Minimum scrubber liquor flow rate	continuous	1 per minute		✓	✓
Minimum scrubber liquor pH	continuous	1 per minute		✓	✓

- B. Following the date on which the initial performance test is completed or September 1, 2000, whichever date comes first, 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 4 and measured as three (3)-hour rolling averages (calculated each hour as the average of the previous three (3) 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 parameter(s) shall constitute a violation of established operating parameter(s).
5. Except as provided in paragraph (3)(E)8. of this rule, for affected facilities equipped with a dry scrubber followed by a fabric filter—
- A. Operation of the affected facility above the maximum charge rate and below the minimum secondary chamber temperature (each measured on a three (3)-hour rolling average) simultaneously shall constitute a violation of the CO emission limit;
 - B. Operation of the affected facility above the maximum fabric filter inlet temperature, above the maximum charge rate, and below the minimum dioxin/furan sorbent flow rate (each measured on a three (3)-hour rolling average) simultaneously shall constitute a violation of the dioxin/furan emission limit;
 - C. Operation of the affected facility above the maximum charge rate and below the minimum HCl sorbent flow rate (each measured on a three (3)-hour rolling average) simultaneously shall constitute a violation of the HCl emission limit;
 - D. Operation of the affected facility above the maximum charge rate and below the minimum Hg sorbent flow rate (each measured on a three (3)-hour rolling average) simultaneously shall constitute a violation of the Hg emission limit; or
 - E. Use of the bypass stack (except during startup, shutdown, or malfunction) shall constitute a violation of the PM, dioxin/furan, HCl, Pb, Cd and Hg emission limits.
6. Except as provided in paragraph (3)(E)8. of this rule, for affected facilities equipped with a wet scrubber—
- A. Operation of the affected facility above the maximum charge rate and below the minimum pressure drop across the wet scrubber or below the minimum horsepower or amperage to the system (each measured on a three (3)-hour rolling average) simultaneously shall constitute a violation of the PM emission limit;
 - B. Operation of the affected facility above the maximum charge rate and below the minimum secondary chamber temperature (each measured on a three (3)-hour rolling average) simultaneously shall constitute a violation of the CO emission limit;

- C. Operation of the affected facility above the maximum charge rate, below the minimum secondary temperature, and below the minimum scrubber liquor flow rate (each measured on a three (3)-hour rolling average) simultaneously shall constitute a violation of the dioxin/furan emission limit;
 - D. Operation of the affected facility above the maximum charge rate and below the minimum scrubber liquor pH (each measured on a three (3)-hour rolling average) simultaneously shall constitute a violation of the HCl emission limit;
 - E. Operation of the affected facility above the maximum flue gas temperature and above the maximum charge rate (each measured on a three (3)-hour rolling average) simultaneously shall constitute a violation of the Hg emission limit; or
 - F. Use of the bypass stack (except during startup, shutdown, or malfunction) shall constitute a violation of the PM, dioxin/furan, HCl, Pb, Cd and Hg emission limits.
7. Except as provided in paragraph (3)(E)8. of this rule, for affected facilities equipped with a dry scrubber followed by a fabric filter and a wet scrubber—
- A. Operation of the affected facility above the maximum charge rate and below the minimum secondary chamber temperature (each measured on a three (3)-hour rolling average) simultaneously shall constitute a violation of the CO emission limit;
 - B. Operation of the affected facility above the maximum fabric filter inlet temperature, above the maximum charge rate, and below the minimum dioxin/furan sorbent flow rate (each measured on a three (3)-hour rolling average) simultaneously shall constitute a violation of the dioxin/furan emission limit;
 - C. Operation of the affected facility above the maximum charge rate and below the minimum scrubber liquor pH (each measured on a three (3)-hour rolling average) simultaneously shall constitute a violation of the HCl emission limit;
 - D. Operation of the affected facility above the maximum charge rate and below the minimum Hg sorbent flow rate (each measured on a three (3)-hour rolling average) simultaneously shall constitute a violation of the Hg emission limit; or
 - E. Use of the bypass stack (except during startup, shutdown, or malfunction) shall constitute a violation of the PM, dioxin/furan, HCl, Pb, Cd and Hg emission limits.
8. The owner or operator of an affected facility may conduct a repeat performance test with thirty (30) days of violation of applicable operating parameter(s) to demonstrate that the affected facility is not in violation of the applicable emission limit(s). Repeat performance tests conducted pursuant to this paragraph shall be conducted using the identical operating parameters that indicated a violation under paragraphs (3)(E)5., 6., or 7. of this rule.

9. 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 section (3) of this rule shall petition the Administrator 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 Administrator.
10. 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 department may request a repeat performance test at any time.
11. Small rural HMIWI subject to the emission limits under paragraph (3)(A)2. of this rule shall meet the following compliance and performance testing requirements:
 - A. Conduct the performance testing requirements in paragraph (3)(E)1., subparagraphs (3)(E)2.A. through I., (3)(E)2.K. (Hg only), and (3)(E)3.A. of this rule. The two thousand (2,000) pound per week limitation does not apply during performance tests;
 - B. 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;
 - C. Following the date on which the initial performance test is completed or September 1, 2000, whichever date comes first, ensure that the designated facility does not operate above the maximum charge rate or below the minimum secondary chamber temperature measured as three (3)-hour rolling averages (calculated as the average of the previous three (3) 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 parameter(s);
 - D. Except as provided in subparagraph (3)(E)11.E. of this rule, operation of the designated facility above the maximum charge rate and below the minimum secondary chamber temperature (each measured on a three (3)-hour rolling average) simultaneously shall constitute a violation of the PM, CO, and dioxin/furan emission limits; and
 - E. The owner or operator of a designated facility may conduct a repeat performance test within thirty (30) days of the violation of applicable operating parameter(s) to demonstrate that the designated facility is not in violation of the applicable emission limit(s). Repeat performance tests conducted pursuant to this

paragraph must be conducted using the identical operating parameters that indicated a violation under subparagraph (3)(E)11.D. of this rule.

(F) Monitoring Requirements.

1. Except as provided for under paragraph (3)(F)5. of this rule, the owner or operator of a HMIWI shall install, calibrate (to manufacturers' specification), maintain, and operate devices (or establish methods) for monitoring the applicable maximum and minimum operating parameters listed in Table 4 of subparagraph (3)(E)4.A. of this rule such that these devices (or methods) measure and record values for these operating parameters at the frequency indicated in Table 4 of subparagraph (3)(E)4.A. at all times except during periods of startup and shutdown.
2. The owner or operator of a HMIWI 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 a HMIWI using something 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 section (3) of this rule shall install, calibrate (to manufacturers' specifications), maintain, and operate the equipment necessary to monitor the site-specific operating parameters developed pursuant to paragraph (3)(E)9. of this rule.
4. The owner or operator of a HMIWI 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 seventy-five percent (75%) of the operating hours per day for ninety percent (90%) of the operating days per calendar quarter that the HMIWI is combusting hospital waste and/or medical/infectious waste.
5. Small rural HMIWI subject to the emission limits under paragraph (3)(A)2. of this rule shall meet the following monitoring requirements:
 - A. Install, calibrate (to manufacturers' specification), 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;
 - B. Install, calibrate (to manufacturers' specification), maintain, and operate a device that automatically measures and records the date, time, and weight of each charge fed into the HMIWI; and
 - C. The owner or operator of a designated 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 seventy five percent (75%) of the operating hours per day for ninety percent (90%) of the operating days per calendar quarter that

the designated facility is combusting hospital waste and/or medical/infectious waste.

(4) Reporting and Recordkeeping.

- (A) Except as provided for under subsection (4)(F) of this rule, the owner or operator of a HMIWI shall maintain the following information (as applicable) for a period of at least five (5) years—
1. Calendar date of each record;
 2. Records of the following data:
 - A. Concentrations of any pollutant listed in section (3) of this rule or measurements of opacity as determined by the continuous emission monitoring system (if applicable);
 - B. HMIWI charge dates, times, and weights and hourly charge rates;
 - C. Fabric filter inlet temperatures during each minute of operation, as applicable;
 - D. Amount and type of dioxin/furan sorbent used during each hour of operation, as applicable;
 - E. Amount and type of Hg sorbent used during each hour of operation, as applicable;
 - F. Amount and type of HCl sorbent used during each hour of operation, as applicable;
 - G. Secondary chamber temperatures recorded during each minute of operation;
 - H. Liquid flow rate to the wet scrubber inlet during each minute of operation, as applicable;
 - I. Horsepower or amperage to the wet scrubber during each minute of operation, as applicable;
 - J. Pressure drop across the wet scrubber system during each minute of operation, as applicable;
 - K. Temperature at the outlet from the wet scrubber during each minute of operation, as applicable;
 - L. pH of the scrubber liquor at the inlet to the wet scrubber during each minute of operation, as applicable;
 - M. Records indicating use of the bypass stack, including dates, times, and durations; and
 - N. For HMIWI complying with paragraph (3)(E)9. and paragraph (3)(F)3. of this rule, the owner or operator shall maintain all operating parameter data collected;
 3. Identification of calendar days for which data on emission rates or operating parameters specified under paragraph (4)(A)2. of this rule have not been obtained, with an identification of the emission rates or operating parameters not measured, reasons for not obtaining the data, and a description of corrective actions taken;
 4. Identification of calendar days, times and durations of malfunctions, a description of the malfunction and the corrective action taken;

5. Identification of calendar days for which data on emission rates or operating parameters specified under paragraph (4)(A)2. of this rule exceeded the applicable limits, with a description of the exceedances, reasons for such exceedances, and a description of corrective actions taken;
 6. The results of the initial, annual, and any subsequent performance tests conducted to determine compliance with the emission limits and/or to establish operating parameters, as applicable;
 7. Records showing the names of HMIWI operators who have completed review of the information in paragraph (3)(B)8. of this rule as required by paragraph (3)(B)9. of this rule, including the date of the initial review and all subsequent annual reviews;
 8. Records showing the names of the HMIWI operators who have completed the operator training requirements, including documentation of training and the dates of the training;
 9. Records showing the names of the HMIWI operators who have met the criteria for qualification under subsection (3)(B) of this rule and the dates of their qualification; and
 10. Records of calibration of any monitoring devices as required under paragraphs (3)(F)1., 2., and 3. of this rule.
- (B) The owner or operator of a HMIWI shall submit to the department the information specified in paragraphs (4)(B)1. through 3. of this rule no later than sixty (60) days following the initial performance test. All reports shall be signed by the facilities manager.
1. The initial performance test data as recorded under subparagraphs (3)(E)2.A. through K. of this rule, as applicable.
 2. The values for the site-specific operating parameters established pursuant to paragraph (3)(E)4. or 9. of this rule, as applicable.
 3. The waste management plan as specified in subsection (3)(C) of this rule.
- (C) An annual report shall be submitted to the department one (1) year following the submission of the information in subsection (4)(B) of this rule and subsequent reports shall be submitted no more than twelve (12) months following the previous report (once the unit is subject to permitting requirements under Title V of the Clean Air Act, the owner or operator of an affected facility must submit these reports semiannually). The annual report shall include the information specified in paragraphs (4)(C)1. through 8. of this rule. All reports shall be signed by the facilities manager.
1. The values for the site-specific operating parameters established pursuant to paragraph (3)(E)4. or 9. of this rule, as applicable.
 2. The highest maximum operating parameter and the lowest minimum operating parameter, as applicable, for each operating parameter recorded for the calendar year being reported, pursuant to paragraph (3)(E)4. or 9. of this rule, as applicable.
 3. The highest maximum operating parameter and the lowest minimum operating parameter, as applicable for each operating parameter recorded pursuant to paragraph (3)(E)4. or 9. of this rule for the calendar year

- preceding the year being reported, in order to provide the department with a summary of the performance of the affected facility over a two (2)-year period.
4. Any information recorded under paragraphs (4)(A)3. through 5. of this rule for the calendar year being reported.
 5. Any information recorded under paragraphs (4)(A)3. through 5. of this rule for the calendar year preceding the year being reported, in order to provide the department with a summary of the performance of the affected facility over a two (2)-year period.
 6. If a performance test was conducted during the reporting period, the results of that test.
 7. If no exceedances or malfunctions were reported under paragraphs (4)(A)3. through 5. of this rule for the calendar year being reported, a statement that no exceedances occurred during the reporting period.
 8. Any use of the bypass stack, the duration, reason for malfunction, and corrective action taken.
- (D) The owner or operator of a HMIWI shall submit to the department semiannual reports containing any information recorded under paragraphs (4)(A)3. through 5. of this rule no later than sixty (60) days following the reporting period. The first semiannual reporting period ends six (6) months following the submission of information in subsection (4)(B) of this rule. Subsequent reports shall be submitted to the department no later than six (6) calendar months following the previous report. All reports shall be signed by the facilities manager.
- (E) All records specified under subsection (4)(A) of this rule shall be maintained on-site in either paper copy or computer-readable format, unless an alternative format is approved by the department.
- (F) The owner or operator of a small rural HMIWI subject to the emission limits under paragraph (3)(A)2. of this rule shall—
1. Maintain records of the annual equipment inspections, any required maintenance, and any repairs not completed within ten (10) days of an inspection or the timeframe established by the inspector; and
 2. Submit an annual report to the department containing information recorded under paragraph (4)(F)1. of this rule no later than sixty (60) days following the year in which data were collected. Subsequent reports shall be sent no later than twelve (12) calendar months following the previous report (once the unit is subject to permitting requirements under Title V of the Clean Air Act, the owner or operator must submit these reports semiannually). The report shall be signed by the facilities manager.
- (5) Test Methods. Test methods can be found in subparagraphs (3)(E)2.A. through (3)(E)2.K. of this rule.

Appendix C - Medical Waste Incineration emission factors

APPENDIX G--HMIWI EMISSION INVENTORY

The pollutants emitted from hospital/medical/infectious waste incinerators (HMIWI) include the following:

- metals (cadmium, lead, and mercury),
- particulate matter (PM),
- acid gases (hydrogen chloride, HCl, and sulfur dioxide, SO₂),
- organic compounds (dioxins and furans),
- carbon monoxide (CO), and
- nitrogen oxides (NO_x).

Emission factors for each of these pollutants are included in Table G-1. The emission factors presented in Table G-1 were generated based on test data used for development of the Emission Guidelines for HMIWI. For the most part, the emission factors presented in Table G-1 are similar to those presented in AP-42.¹ The test data used to develop the emission factors in Table G-1 was thoroughly reviewed for accuracy and reliability prior to use for the Emission Guidelines. Therefore, the emission factors presented in Table G-1 are appropriate emission factors for use in developing the emission inventory to be submitted in Section 111(d)/129 State Plans. The AP-42 emission factors may be used as well.

¹U.S. Environmental Protection Agency. *Compilation of Air Pollutant Emission Factors*, 5th ed. (AP-42), Vol. I: Stationary Point and Area Sources, Section 2.3: "Medical Waste Incineration," Research Triangle Park, North Carolina: U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, January 1995.

TABLE G-1. EMISSION FACTORS FOR HMIWI

Pollutant	Emission factors, lb emitted per lb waste charged					
	Combustion Control			Wet Scrubbers	Dry scrubber w/o carbon	Dry scrubber w/ carbon
	1/4-second	1-second	2-second			
CDD/CDF	1.94×10^{-7}	4.45×10^{-8}	3.65×10^{-9}	4.26×10^{-10}	3.65×10^{-9}	7.04×10^{-11}
CDD/CDF TEQ	3.96×10^{-9}	9.09×10^{-10}	7.44×10^{-11}	1.01×10^{-11}	7.44×10^{-11}	1.68×10^{-12}
CO	8.12×10^{-3}	3.46×10^{-3}	1.52×10^{-4}	1.52×10^{-4}	1.52×10^{-4}	1.52×10^{-4}
PM	6.87×10^{-3}	3.66×10^{-3}	2.29×10^{-3}	a	2.29×10^{-5}	2.29×10^{-5}
HCl	2.24×10^{-2}	2.24×10^{-2}	2.24×10^{-2}	3.54×10^{-5}	4.37×10^{-4}	4.37×10^{-4}
Pb	3.80×10^{-5}	3.80×10^{-5}	3.80×10^{-5}	3.32×10^{-6}	1.31×10^{-7}	1.31×10^{-7}
SO ₂	3.20×10^{-4}	3.20×10^{-4}	3.20×10^{-4}	3.20×10^{-4}	3.20×10^{-4}	3.20×10^{-4}
Hg ^b	3.70×10^{-5}	3.70×10^{-5}	3.70×10^{-5}	1.31×10^{-6}	3.70×10^{-5}	1.66×10^{-6}
Cd	4.10×10^{-6}	4.10×10^{-6}	4.10×10^{-6}	4.60×10^{-7}	2.60×10^{-8}	2.60×10^{-8}
NO _x	1.51×10^{-3}	1.51×10^{-3}	1.51×10^{-3}	1.51×10^{-3}	1.51×10^{-3}	1.51×10^{-3}

^alow efficiency: 8.70×10^{-4}
 moderate efficiency: 3.20×10^{-4}
 high efficiency: 1.60×10^{-4}

^bWith waste reduction, the Hg emission factor for combustion control and dry scrubber w/o carbon would be 1.10×10^{-5} .

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When estimating emissions from emission factors, the amount of waste burned per year at a facility is simply multiplied by the pollutant emission factor. For example, to estimate the annual Pb emissions (lb/yr) for an HMIWI which burns 424,000 lb of medical/infectious waste per year and is equipped with a wet scrubber, the following calculation is performed:

$$(424,000 \text{ lb waste/yr}) \times (3.32\text{E-}06 \text{ lb Pb/lb waste}) = 1.41 \text{ lb Pb/yr}$$

When using the HMIWI emission factors to estimate emissions, keep in mind that they are average values, and that emissions from HMIWI are greatly affected by the composition of the waste and may vary from facility to facility. Actual and reliable facility-specific stack sampling results should be used in place of emission factors where available. The preferred hierarchy for estimating emissions is as follows: (1) continuous emissions monitoring system (CEMs) data, (2) stack sampling results, and (3) emission factors.

The following pages contain a sample inventory questionnaire which States may modify as needed and have sources to complete. The inventory questionnaire requests information that States may use in the development of their source inventories and emission inventories.

2.6 MEDICAL WASTE INCINERATION

Medical waste incineration involves the burning of wastes produced by hospitals, veterinary facilities, and medical research facilities. These wastes include both infectious ("red bag") medical wastes as well as non-infectious, general housekeeping wastes. The emission factors presented here represent emissions when both types of these wastes are combusted rather than just infectious wastes.

Three main types of incinerators are used: controlled air, excess air, and rotary kiln. Of the incinerators identified in this study, the majority (>95 percent) are controlled air units. A small percentage (<2 percent) are excess air. Less than one percent were identified as rotary kiln. The rotary kiln units tend to be larger, and typically are equipped with air pollution control devices. Approximately 2 percent of the total population identified in this study were found to be equipped with air pollution control devices.

2.6.1 Process Description¹⁻⁶

Types of incineration described in this section include:

- Controlled air,
- Excess air, and
- Rotary kiln.

2.6.1.1 Controlled-Air Incinerators – Controlled-air incineration is the most widely used medical waste incinerator (MWI) technology, and now dominates the market for new systems at hospitals and similar medical facilities. This technology is also known as starved-air incineration, two-stage incineration, or modular combustion. Figure 2.6-1 presents a typical schematic diagram of a controlled air unit.

Combustion of waste in controlled air incinerators occurs in two stages. In the first stage, waste is fed into the primary, or lower, combustion chamber, which is operated with less than the stoichiometric amount of air required for combustion. Combustion air enters the primary chamber from beneath the incinerator hearth (below the burning bed of waste). This air is called primary or underfire air. In the primary (starved-air) chamber, the low air-to-fuel ratio dries and facilitates volatilization of the waste, and most of the residual carbon in the ash burns. At these conditions, combustion gas temperatures are relatively low [760 to 980°C (1,400 to 1,800°F)].

In the second stage, excess air is added to the volatile gases formed in the primary chamber to complete combustion. Secondary chamber temperatures are higher than primary chamber temperatures—typically 980 to 1,095°C (1,800 to 2,000°F). Depending on the heating value and moisture content of the waste, additional heat may be needed. This can be provided by auxiliary burners located at the entrance to the secondary (upper) chamber to maintain desired temperatures.

Waste feed capacities for controlled air incinerators range from about 0.6 to 50 kg/min (75 to 6,500 lb/hr) [at an assumed fuel heating value of 19,700 kJ/kg (8,500 Btu/lb)]. Waste feed and ash removal can be manual or automatic, depending on the unit size and options purchased. Throughput

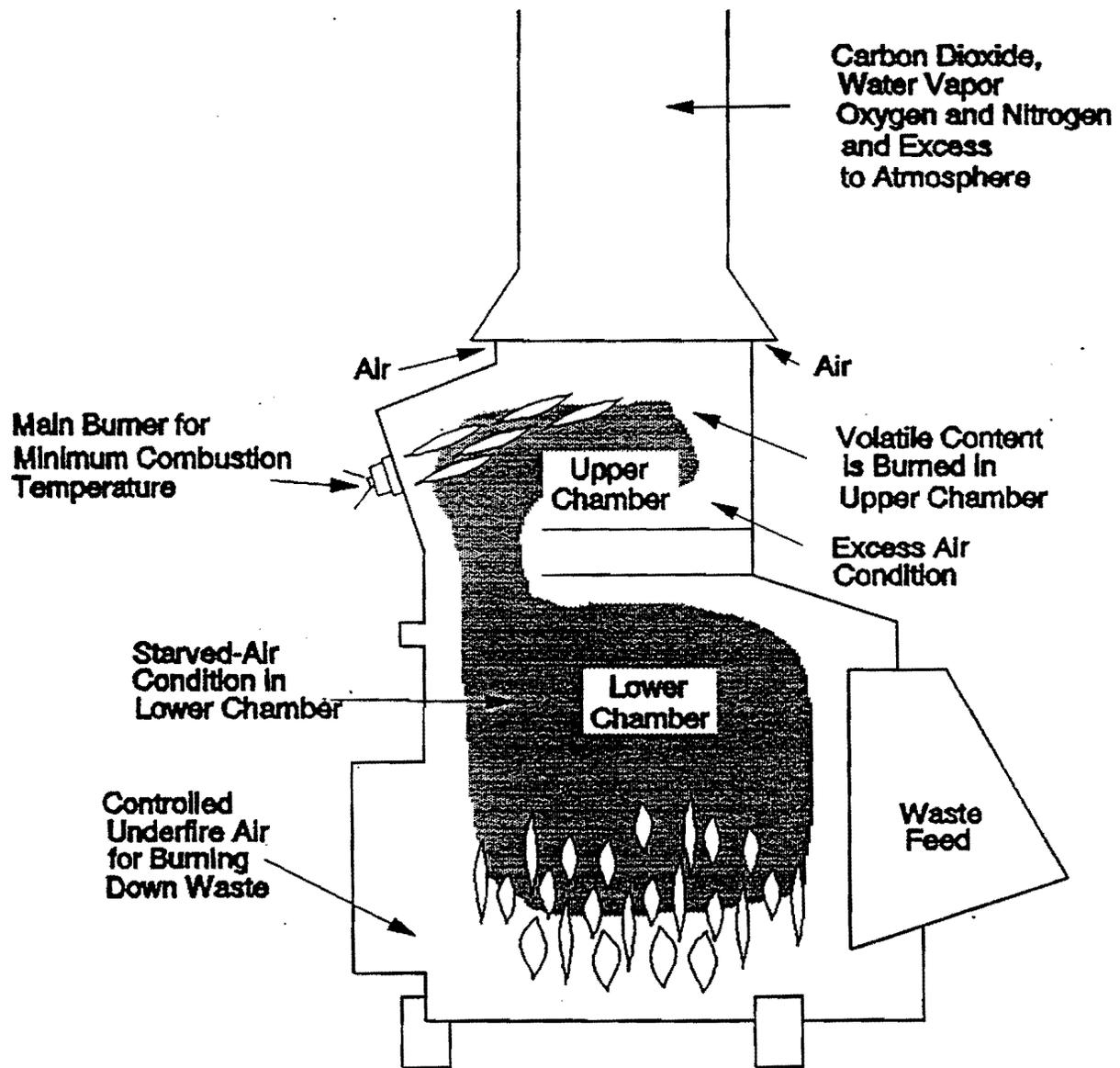


Figure 2.6-1. Controlled Air Incinerator

capacities for lower heating value wastes may be higher, since feed capacities are limited by primary chamber heat release rates. Heat release rates for controlled air incinerators typically range from about 430,000 to 710,000 kJ/hr-m³ (15,000 to 25,000 Btu/hr-ft³).

Because of the low air addition rates in the primary chamber, and corresponding low flue gas velocities (and turbulence), the amount of solids entrained in the gases leaving the primary chamber is low. Therefore, the majority of controlled air incinerators do not have add-on gas cleaning devices.

2.6.1.2 Excess Air Incinerators – Excess air incinerators are typically small modular units. They are also referred to as batch incinerators, multiple chamber incinerators, or "retort" incinerators. Excess air incinerators are typically a compact cube with a series of internal chambers and baffles. Although they can be operated continuously, they are usually operated in a batch mode.

Figure 2.6-2 presents a schematic for an excess air unit. Typically, waste is manually fed into the combustion chamber. The charging door is then closed, and an afterburner is ignited to bring the secondary chamber to a target temperature [typically 870 to 980°C (1600 to 1800°F)]. When the target temperature is reached, the primary chamber burner ignites. The waste is dried, ignited, and combusted by heat provided by the primary chamber burner, as well as by radiant heat from the chamber walls. Moisture and volatile components in the waste are vaporized, and pass (along with combustion gases) out of the primary chamber and through a flame port which connects the primary chamber to the secondary or mixing chamber. Secondary air is added through the flame port and is mixed with the volatile components in the secondary chamber. Burners are also installed in the secondary chamber to maintain adequate temperatures for combustion of volatile gases. Gases exiting the secondary chamber are directed to the incinerator stack or to an air pollution-control device. When the waste is consumed, the primary burner shuts off. Typically, the afterburner shuts off after a set time. Once the chamber cools, ash is manually removed from the primary chamber floor and a new charge of waste can be added.

Incinerators designed to burn general hospital waste operate at excess air levels of up to 300 percent. If only pathological wastes are combusted, excess air levels near 100 percent are more common. The lower excess air helps maintain higher chamber temperature when burning high moisture waste. Waste feed capacities for excess air incinerators are usually 3.8 kg/min (500 lb/hr) or less.

2.6.1.3 Rotary Kiln Incinerators – Rotary kiln incinerators, like the other types, are designed with a primary chamber, where the waste is heated and volatilized, and a secondary chamber, where combustion of the volatile fraction is completed. The primary chamber consists of a slightly inclined, rotating kiln in which waste materials migrate from the feed end to the ash discharge end. The waste throughput rate is controlled by adjusting the rate of kiln rotation and the angle of inclination. Combustion air enters the primary chamber through a port. An auxiliary burner is generally used to start combustion and maintain desired combustion temperatures. Both the primary and secondary chambers are usually lined with acid-resistant refractory brick, as shown in the schematic drawing, Figure 2.6-3.

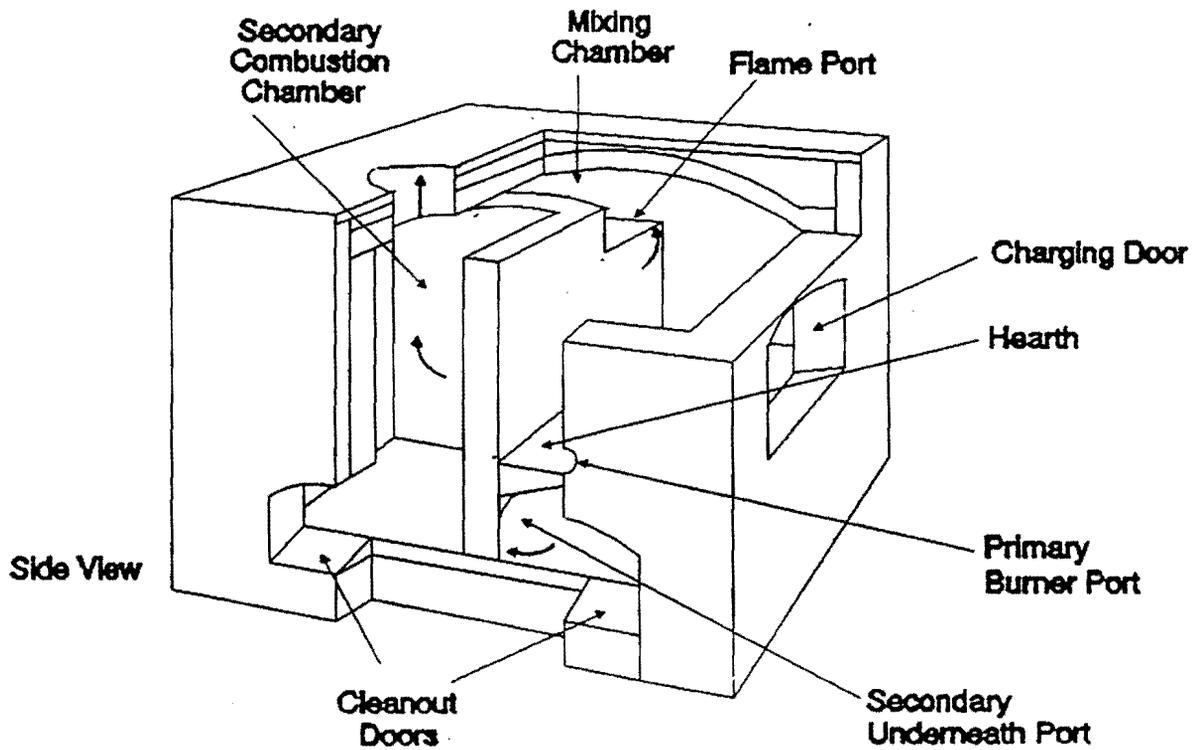
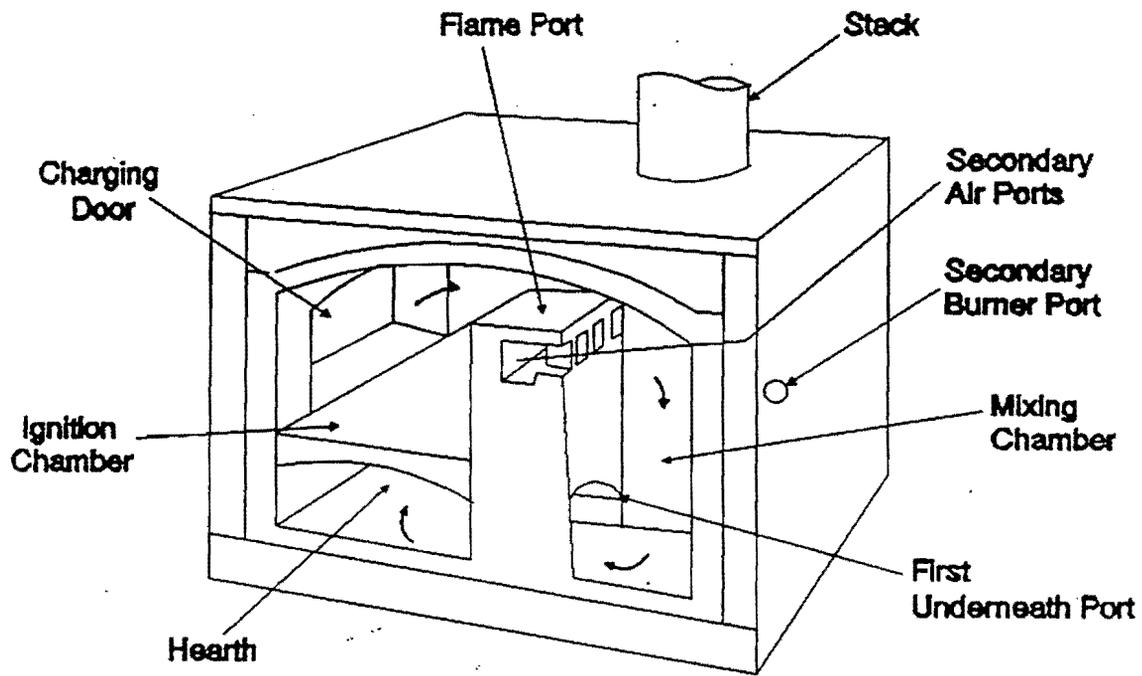


Figure 2.6-2. Excess Air Incinerator

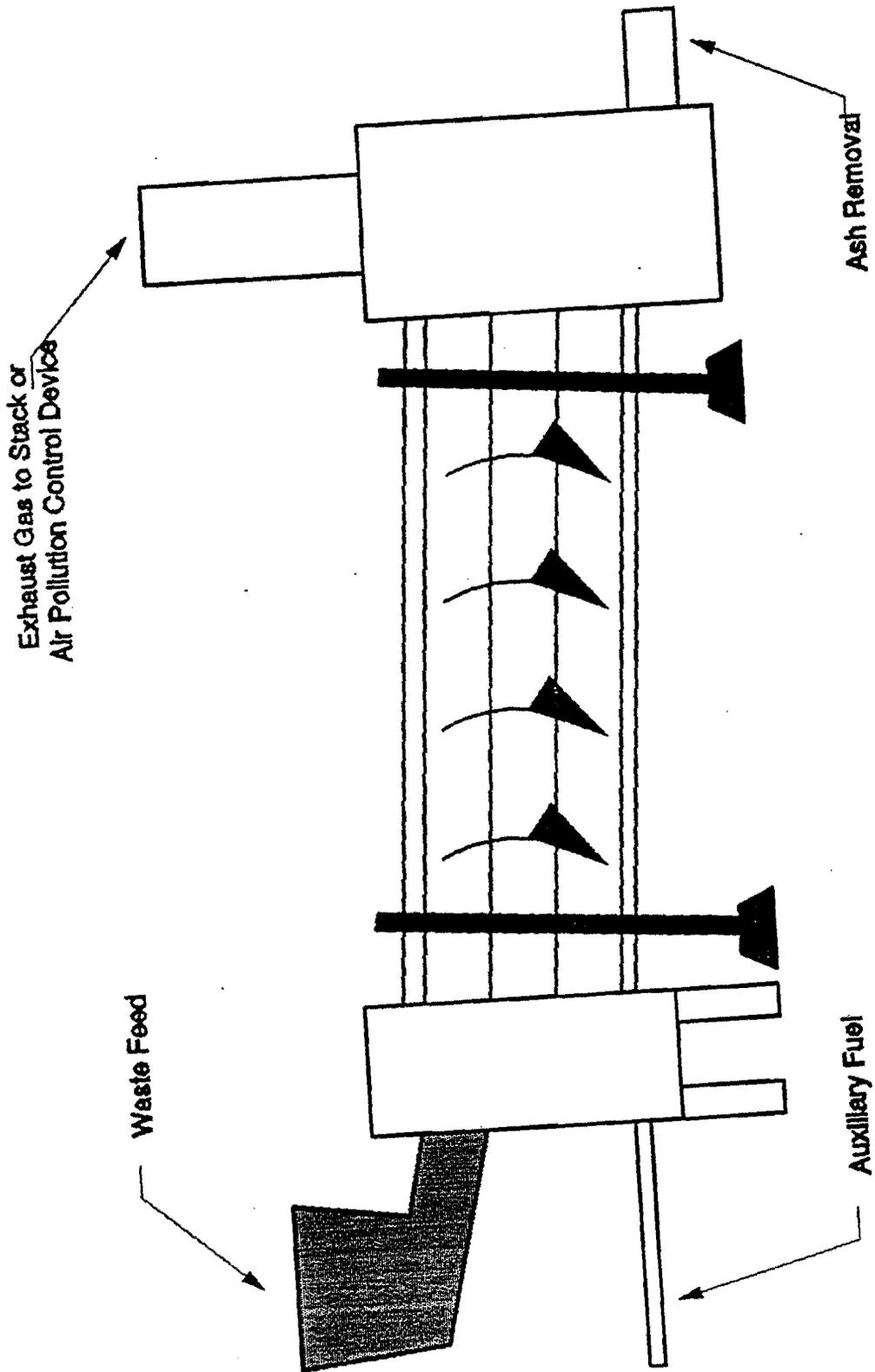


Figure 2.6-3. Rotary Kiln Incinerator

Volatiles and combustion gases pass from the primary chamber to the secondary chamber. The secondary chamber operates at excess air. Combustion of the volatiles is completed in the secondary chamber. Due to the turbulent motion of the waste in the primary chamber, solids burnout rates and particulate entrainment in the flue gas are higher for rotary kiln incinerators than for other incinerator designs. As a result, rotary kiln incinerators generally have add-on gas cleaning devices.

2.6.2 Emissions and Controls^{2,4,7-43}

Medical waste incinerators can emit significant quantities of pollutants to the atmosphere. These pollutants include: 1) particulate matter (PM), 2) metals, 3) acid gases, 4) oxides of nitrogen (NO_x), 5) carbon monoxide (CO), 6) organics, and 7) various other materials present in medical wastes, such as pathogens, cytotoxins, and radioactive diagnostic materials.

Particulate matter is emitted as a result of incomplete combustion of organics (i.e., soot) and by the entrainment of noncombustible ash due to the turbulent movement of combustion gases. Particulate matter may exit as a solid or an aerosol, and may contain heavy metals, acids, and/or trace organics.

Uncontrolled particulate emission rates vary widely, depending on the type of incinerator, composition of the waste, and the operating practices employed. Entrainment of PM in the incinerator exhaust is primarily a function of the gas velocity within the combustion chamber containing the solid waste. Controlled air incinerators have the lowest turbulence and, consequently, lowest PM emissions; rotary kiln incinerators have highly turbulent combustion, and thus have the highest PM emissions.

The type and amount of trace metals in the flue gas are directly related to the metals contained in the waste. Metals emissions are affected by the level of PM control and the flue gas temperature. Most metals (except mercury) exhibit fine-particle enrichment and are removed by maximizing small particle collection. Mercury, due to its high-vapor pressure, does not show significant particle enrichment, and removal is not a function of small particle collection in gas streams at temperatures greater than 150°C (300°F).

Acid gas concentrations of hydrogen chloride (HCl) and sulfur dioxide (SO_2) in MWI flue gases are directly related to the chlorine and sulfur content of the waste. Most of the chlorine, which is chemically bound within the waste in the form of polyvinyl chloride (PVC) and other chlorinated compounds, will be converted to HCl. Sulfur is also chemically bound within the materials making up medical waste and is oxidized during combustion to form SO_2 .

Oxides of nitrogen (NO_x) represent a mixture of mainly nitric oxide (NO) and nitrogen dioxide (NO_2). They are formed during combustion by: 1) oxidation of nitrogen chemically bound in the waste, and 2) reaction between molecular nitrogen and oxygen in the combustion air. The formation of NO_x is dependent on the quantity of fuel-bound nitrogen compounds, flame temperature, and air/fuel ratio.

Carbon monoxide is a product of incomplete combustion. Its presence can be related to insufficient oxygen, combustion (residence) time, temperature, and turbulence (fuel/air mixing) in the combustion zone.

Failure to achieve complete combustion of organic materials evolved from the waste can result in emissions of a variety of organic compounds. The products of incomplete combustion (PICs) range

from low molecular weight hydrocarbon (e.g., methane or ethane) to high molecular weight compounds [e.g., polychlorinated dibenzo-p-dioxins and dibenzofurans (CDD/CDF)]. In general, combustion conditions required for control of CO (i.e., adequate oxygen, temperature, residence time, and turbulence) will also minimize emissions of most organics.

Emissions of CDD/CDF from MWIs may occur as either a vapor or as a fine particulate. Many factors are believed to be involved in the formation of CDD/CDF and many theories exist concerning the formation of these compounds. In brief, the best supported theories involve four mechanisms of formation.² The first theory states that trace quantities of CDD/CDF present in the refuse feed are carried over, unburned, to the exhaust. The second theory involves formation of CDD/CDF from chlorinated precursors with similar structures. Conversion of precursor material to CDD/CDF can potentially occur either in the combustor at relatively high temperatures or at lower temperatures such as are present in wet scrubbing systems. The third theory involves synthesis of CDD/CDF compounds from a variety of organics and a chlorine donor. The fourth mechanism involves catalyzed reactions on fly ash particles at low temperatures.

To date, most MWIs have operated without add-on air pollution control devices (APCDs). A small percentage (approximately 2 percent) of MWIs do use APCDs. The most frequently used control devices are wet scrubbers and fabric filters (FFs). Fabric filters provide mainly PM control. Other PM control technologies include venturi scrubbers and electrostatic precipitators (ESPs). In addition to wet scrubbing, dry sorbent injection (DSI) and spray dryer absorbers have also been used for acid gas control.

Wet scrubbers use gas-liquid absorption to transfer pollutants from a gas to a liquid stream. Scrubber design and the type of liquid solution used largely determine contaminant removal efficiencies. With plain water, removal efficiencies for acid gases could be as high as 70 percent for HCl and 30 percent for SO₂. Addition of an alkaline reagent to the scrubber liquor for acid neutralization has been shown to result in removal efficiencies of 93 to 96 percent.

Wet scrubbers are generally classified according to the energy required to overcome the pressure drop through the system. Low-energy scrubbers (spray towers) are primarily used for acid gas control only, and are usually circular in cross-section. The liquid is sprayed down the tower through the rising gas. Acid gases are absorbed/neutralized by the scrubbing liquid. Low energy scrubbers mainly remove particles larger than 5-10 micrometers (μm) in diameter.

Medium-energy scrubbers can be used for particulate matter and/or acid gas control. Medium energy devices rely mostly on impingement to facilitate removal of PM. This can be accomplished through a variety of configurations, such as packed columns, baffle plates, and liquid impingement scrubbers.

Venturi scrubbers are high-energy systems that are used primarily for PM control. A typical venturi scrubber consists of a converging and a diverging section connected by a throat section. A liquid (usually water) is introduced into the gas stream upstream of the throat. The flue gas impinges on the liquid stream in the converging section. As the gas passes through the throat, the shearing action atomizes the liquid into fine droplets. The gas then decelerates through the diverging section, resulting in further contact between particles and liquid droplets. The droplets are then removed from the gas stream by a cyclone, demister or swirl vanes.

A fabric filtration system (baghouse) consists of a number of filtering elements (bags) along with a bag cleaning system contained in a main shell structure with dust hoppers. Particulate-laden

gas passes through the bags so that the particles are retained on the upstream side of the fabric, thus cleaning the gas. A FF is typically divided into several compartments or sections. In a FF, both the collection efficiency and the pressure drop across the bag surface increase as the dust layer on the bag builds up. Since the system cannot continue to operate with an increasing pressure drop, the bags are cleaned periodically. The cleaning processes include reverse flow with bag collapse, pulse jet cleaning, and mechanical shaking. When reverse flow and mechanical shaking are used, the particulate matter is collected on the inside of the bag; particulate matter is collected on the outside of the bag in pulse jet systems. Generally, reverse flow FFs operate with lower gas flow per unit area of bag surface (air-to-cloth ratio) than pulse jet systems and, thus, are larger and more costly for a given gas flow-rate or application. Fabric filters can achieve very high (>99.9 percent) PM removal efficiencies. These systems are also very effective in controlling fine particulate matter, which results in good control of metals and organics entrained on fine particulate.

Particulate collection in an ESP occurs in three steps: (1) suspended particles are given an electrical charge; (2) the charged particles migrate to a collecting electrode of opposite polarity; and (3) the collected PM is dislodged from the collecting electrodes and collected in hoppers for disposal.

Charging of the particles is usually caused by ions produced in high voltage corona. The electric fields and the corona necessary for particle charging are provided by converting alternating current to direct current using high voltage transformers and rectifiers. Removal of the collected particulate matter is accomplished mechanically by rapping or vibrating the collecting electrode plates. ESPs have been used in many applications due to their high reliability and efficiency in controlling total PM emissions. Except for very large and carefully designed ESPs, however, they are less efficient than FFs at control of fine particulates and metals.

Dry sorbent injection (DSI) is another method for controlling acid gases. In the DSI process, a dry alkaline material is injected into the flue gas into a dry venturi within the ducting or into the duct ahead of a particulate control device. The alkaline material reacts with and neutralizes acids in the flue gas. Fabric filters are employed downstream of DSI to: 1) control the PM generated by the incinerator, 2) capture the DSI reaction products and unreacted sorbent, and 3) increase sorbent/acid gas contact time, thus enhancing acid gas removal efficiency and sorbent utilization. Fabric filters are commonly used with DSI because they provide high sorbent/acid gas contact. Fabric filters are less sensitive to PM loading changes or combustion upsets than other PM control devices since they operate with nearly constant efficiency. A potential disadvantage of ESPs used in conjunction with DSI is that the sorbent increases the electrical resistivity of the PM being collected. This phenomenon makes the PM more difficult to charge and, therefore, to collect. High resistivity can be compensated for by flue gas conditioning or by increasing the plate area and size of the ESP.

The major factors affecting DSI performance are flue gas temperature, acid gas dew point (temperature at which the acid gases condense), and sorbent-to-acid gas ratio. DSI performance improves as the difference between flue gas and acid dew point temperatures decreases and the sorbent-to-acid gas ratio increases. Acid gas removal efficiency with DSI also depends on sorbent type and the extent of sorbent mixing with the flue gas. Sorbents that have been successfully applied include hydrated lime [$\text{Ca}(\text{OH})_2$], sodium hydroxide (NaOH), and sodium bicarbonate (NaHCO_3). For hydrated lime, DSI can achieve 80 to 95 percent of HCl removal and 40 to 70 percent removal of SO_2 under proper operating conditions.

The primary advantage of DSI compared to wet scrubbers is the relative simplicity of the sorbent preparation, handling, and injection systems as well as the easier handling and disposal of dry

solid process wastes. The primary disadvantages are its lower sorbent utilization rate and correspondingly higher sorbent and waste disposal rates.

In the spray drying process, lime slurry is injected into the SD through either a rotary atomizer or dual-fluid nozzles. The water in the slurry evaporates to cool the flue gas, and the lime reacts with acid gases to form calcium salts that can be removed by a PM control device. The SD is designed to provide sufficient contact and residence time to produce a dry product before leaving the SD adsorber vessel. The residence time in the adsorber vessel is typically 10 to 15 seconds. The particulates leaving the SD (fly ash, calcium salts, and unreacted hydrated lime) are collected by a FF or ESP.

Emission factors and emission factor ratings for controlled air incinerators are presented in Tables 2.6-1 through 2.6-15. For emissions controlled with wet scrubbers, emission factors are presented separately for low, medium, and high energy wet scrubbers. Particle size distribution data for controlled air incinerators are presented in Table 2.6-15 for uncontrolled emissions and controlled emissions following a medium-energy wet scrubber/FF and a low-energy wet scrubber. Emission factors and emission factor ratings for rotary kiln incinerators are presented in Tables 2.6-16 through 2.6-18. Emissions data are not available for pathogens because there is not an accepted methodology for measurement of these emissions. Refer to References 8, 9, 11, 12, and 19 for more information.

Table 2.6-1 (Metric and English Units). EMISSION FACTORS FOR NITROGEN OXIDES (NO_x), CARBON MONOXIDE (CO), AND SULFUR DIOXIDE (SO₂) FOR CONTROLLED AIR MEDICAL WASTE INCINERATORS^a
(SCC 50100505, 50200505)

Rating (A-E) Follows Each Factor

Control Level ^b	NO _x			CO			SO ₂		
	lb/ton	kg/Mg	Rating	lb/ton	kg/Mg	Rating	lb/ton	kg/Mg	Rating
Uncontrolled	4.95E+00	2.48E+00	B	3.86E+00	1.93E+00	B	2.17E+00	1.09E+00	B
Low Energy Scrubber/FF									
Medium Energy Scrubber/FF							3.75E-01	1.88E-01	E
FF	3.55E+00	1.77E+00	E	1.20E+00	6.01E-01	E	8.45E-01	4.22E-01	E
Low Energy Scrubber	2.12E+00	1.06E+00	E	8.27E-01	4.14E-01	E	2.09E+00	1.04E+00	E
High Energy Scrubber	2.12E+00	1.06E+00	E	8.27E-01	4.14E-01	E	2.57E-02	1.29E-02	E
DSI/FF	6.36E+00	3.18E+00	E	5.32E-01	2.66E-01	E	3.83E-01	1.92E-01	E
DSI/Carbon Injection/FF	2.90E+00	1.45E+00	E	5.09E-03	2.54E-03	E	7.14E-01	3.57E-01	E
DSI/FF/Scrubber							1.51E-02	7.57E-03	E
DSI/ESP				7.08E-03	3.54E-03	E			

^a References 7-43. SCC = Source Classification Code.

^b FF = Fabric Filter
DSI = Dry Sorbent Injection
ESP = Electrostatic Precipitator

Table 2.6-2 (Metric and Electric Units). EMISSION FACTORS FOR TOTAL PARTICULATE MATTER, LEAD, AND TOTAL ORGANIC COMPOUNDS (TOC) FOR CONTROLLED AIR MEDICAL WASTE INCINERATORS^a
(SCC 50100505, 50200505)

Rating (A-E) Follows Each Factor

Control Level ^b	Total Particulate Matter			Lead ^c			TOC		
	lb/ton	kg/Mg	Rating	lb/ton	kg/Mg	Rating	lb/ton	kg/Mg	Rating
Uncontrolled	4.67E+00	2.33E+00	B	7.28E-02	3.64E-02	B	2.99E-01	1.50E-01	B
Low Energy Scrubber/FF	9.09E-01	4.55E-01	E						
Medium Energy Scrubber/FF	1.61E-01	8.03E-02	E	1.60E-03	7.99E-04	E			
FF	1.75E-01	8.76E-02	E	9.92E-05	4.96E-05	E	6.86E-02	3.43E-01	E
Low Energy Scrubber	2.90E+00	1.45E+00	E	7.94E-02	3.97E-02	E	1.40E-01	7.01E-02	E
High Energy Scrubber	1.48E+00	7.41E-01	E	6.98E-02	3.49E-02	E	1.40E-01	7.01E-02	E
DSI/FF	3.37E-01	1.69E-01	E	6.25E-05	3.12E+01	E	4.71E-02	2.35E-02	E
DSI/Carbon Injection/FF	7.23E-02	3.61E-02	E	9.27E-05	4.64E-05	E			
DSI/FF/Scrubber	2.68E+00	1.34E+00	E	5.17E-05	2.58E-05	E			
DSI/ESP	7.34E-01	3.67E-01	E	4.70E-03	2.35E-03	E			

^a References 7-43. SCC = Source Classification Code.

^b FF = Fabric Filter

DSI = Dry Sorbent Injection

ESP = Electrostatic Precipitator

^c Hazardous Air Pollutants listed in Title I of the 1990 Clean Air Act Amendments.

Table 2.6-3 (Metric and English Units). EMISSION FACTORS FOR HYDROGEN CHLORIDE (HCl) AND POLYCHLORINATED BIPHENYLS (PCBs) FOR CONTROLLED AIR MEDICAL WASTE INCINERATORS^a (SCC 50100505, 50200505)

Rating (A-E) Follows Each Factor

Control Level ^b	HCl ^c			Total PCB ^c		
	lb/ton	kg/Mg	Rating	lb/ton	kg/Mg	Rating
Uncontrolled	3.35E+01	1.68E+01	C	4.65E-05	2.33E-05	E
Low Energy Scrubber/FF	1.90E+00	9.48E-01	E			
Medium Energy Scrubber/FF	2.82E+00	1.41E+00	E			
FF	5.65E+00	2.82E+00	E			
Low Energy Scrubber	1.00E+00	5.01E-01	E			
High Energy Scrubber	1.39E-01	6.97E-02	E			
DSI/FF	1.27E+01	6.37E+00	D			
DSI/Carbon Injection/FF	9.01E-01	4.50E-01	E			
DSI/FF/Scrubber	9.43E-02	4.71E-02	E			
DSI/ESP	4.98E-01	2.49E-01	E			

^a References 7-43. SCC = Source Classification Code.

^b FF = Fabric Filter

DSI = Dry Sorbent Injection

ESP = Electrostatic Precipitator

^c Hazardous Air Pollutants listed in Title I of the 1990 Clean Air Act Amendments.

Table 2.6-4 (Metric and English Units). EMISSION FACTORS FOR ALUMINUM, ANTIMONY, AND ARSENIC
CONTROLLED AIR MEDICAL WASTE INCINERATORS^a
(SCC 50100505, 50200505)

Rating (A-E) Follows Each Factor

Control Level ^b	Aluminum			Antimony ^c			Arsenic ^c		
	lb/ton	kg/Mg	Rating	lb/ton	kg/Mg	Rating	lb/ton	kg/Mg	Rating
Uncontrolled	1.05E-02	5.24E-03	E	1.28E-02	6.39E-03	D	2.42E-04	1.21E-04	B
Low Energy Scrubber/FF									
Medium Energy Scrubber/FF				3.09E-04	1.55E-04	E	3.27E-05	1.53E-02	E
FF							3.95E-08	1.97E-08	E
Low Energy Scrubber							1.42E-04	7.12E-05	E
High Energy Scrubber				4.08E-04	2.04E-04	E	3.27E-05	1.64E-05	E
DSI/FF	3.03E-03	1.51E-03	E	2.10E-04	1.05E-04	E	1.19E-05	5.93E-06	E
DSI/Carbon Injection/FF	2.99E-03	1.50E-03	E	1.51E-04	7.53E-05	E	1.46E-05	7.32E-06	E
DSI/FF/Scrubber									
DSI/ESP							5.01E-05	2.51E-05	E

^a References 7-43. SCC = Source Classification Code.

^b FF = Fabric Filter

DSI = Dry Sorbent Injection

ESP = Electrostatic Precipitator

^c Hazardous Air Pollutants listed in Title I of the 1990 Clean Air Act Amendments.

Table 2.6-5 (Metric and English Units). EMISSION FACTORS FOR BARIUM, BERYLLIUM, AND CADMIUM FOR CONTROLLED AIR MEDICAL WASTE INCINERATORS^a
(SCC 50100505, 50200505)

Rating (A-E) Follows Each Factor

Control Level ^b	Barium			Beryllium ^c			Cadmium ^c		
	lb/ton	kg/Mg	Rating	lb/ton	kg/Mg	Rating	lb/ton	kg/Mg	Rating
Uncontrolled	3.24E-03	1.62E-03	D	6.25E-06	3.12E-06	D	5.48E-03	2.74E-03	B
Low Energy Scrubber/FF									
Medium Energy Scrubber/FF	2.07E-04	1.03E-04	E				1.78E-04	8.89E-05	E
FF									
Low Energy Scrubber							6.97E-03	3.49E-03	E
High Energy Scrubber							7.43E-02	3.72E-02	E
DSI/FF	7.39E-05	3.70E-05	E				2.46E-05	1.23E-05	E
DSI/Carbon Injection/FF	7.39E-05	3.69E-05	E	3.84E-06	1.92E-06	E	9.99E-05	4.99E-05	E
DSI/FF/Scrubber							1.30E-05	6.48E-06	E
DSI/ESP							5.93E-04	2.97E-04	E

^a References 7-43. SCC = Source Classification Code.

^b FF = Fabric Filter

DSI = Dry Sorbent Injection

ESP = Electrostatic Precipitator

^c Hazardous Air Pollutants listed in Title I of the 1990 Clean Air Act Amendments.

Table 2.6-6 (Metric and English Units). EMISSION FACTORS FOR CHROMIUM, COPPER,
AND IRON FOR CONTROLLED AIR MEDICAL WASTE INCINERATORS^a
(SCC 50100505, 50200505)

Rating (A-E) Follows Each Factor

Control Level ^b	Chromium ^c			Copper			Iron		
	lb/ton	kg/Mg	Rating	lb/ton	kg/Mg	Rating	lb/ton	kg/Mg	Rating
Uncontrolled	7.75E-04	3.88E-04	B	1.25E-02	6.24E-03	E	1.44E-02	7.22E-03	C
Low Energy Scrubber/FF									
Medium Energy Scrubber/FF	2.58E-04	1.29E-04	E						
FF	2.15E-06	1.07E-06	E						
Low Energy Scrubber	4.13E-04	2.07E-04	E				9.47E-03	4.73E-03	E
High Energy Scrubber	1.03E-03	5.15E-04	E						
DSI/FF	3.06E-04	1.53E-04	E	1.25E-03	6.25E-04	E			
DSI/Carbon Injection/FF	1.92E-04	9.58E-05	E	2.75E-04	1.37E-04	E			
DSI/FF/Scrubber	3.96E-05	1.98E-05	E						
DSI/ESP	6.58E-04	3.29E-04	E						

^a References 7-43. SCC = Source Classification Code.

^b FF = Fabric Filter

DSI = Dry Sorbent Injection

ESP = Electrostatic Precipitator

^c Hazardous Air Pollutants listed in Title I of the 1990 Clean Air Act Amendments.

Table 2.6-7 (Metric and English Units). EMISSION FACTORS FOR MANGANESE, MERCURY,
AND NICKEL FOR CONTROLLED AIR MEDICAL WASTE INCINERATORS^a
(SCC 50100505, 50200505)

Rating (A-E) Follows Each Factor

Control Level ^b	Manganese ^c			Mercury ^c			Nickel ^c		
	lb/ton	kg/Mg	Rating	lb/ton	kg/Mg	Rating	lb/ton	kg/Mg	Rating
Uncontrolled	5.67E-04	2.84E-04	C	1.07E-01	5.37E-02	C	5.90E-04	2.95E-04	B
Low Energy Scrubber/FF									
Medium Energy Scrubber/FF				3.07E-02	1.53E-02	E	5.30E-04	2.65E-04	E
FF									
Low Energy Scrubber	4.66E-04	2.33E-04	E	1.55E-02	7.75E-03	E	3.28E-04	1.64E-02	E
High Energy Scrubber	6.12E-04	3.06E-04	E	1.73E-02	8.65E-03	E	2.54E-03	1.27E-03	E
DSI/FF				1.11E-01	5.55E-02	E	4.54E-04	2.27E-04	E
DSI/Carbon Injection/FF				9.74E-03	4.87E-03	E	2.84E-04	1.42E-04	E
DSI/FF/Scrubber				3.56E-04	1.78E-04	E			
DSI/ESP				1.81E-02	9.05E-03	E	4.84E-04	2.42E-04	E

^a References 7-43. SCC = Source Classification Code.

^b FF = Fabric Filter

DSI = Dry Sorbent Injection

ESP = Electrostatic Precipitator

^c Hazardous Air Pollutants listed in Title I of the 1990 Clean Air Act Amendments.

Table 2.6-8 (Metric and English Units). EMISSION FACTORS FOR SILVER AND THALLIUM FOR CONTROLLED AIR MEDICAL WASTE INCINERATORS^a
(SCC 50100505, 50200505)

Rating (A-E) Follows Each Factor

Control Level ^b	Silver			Thallium		
	lb/ton	kg/Mg	Rating	lb/ton	kg/Mg	Rating
Uncontrolled	2.26E-04	1.13E-04	D	1.10E-03	5.51E-04	D
Low Energy Scrubber/FF						
Medium Energy Scrubber/FF	1.71E-04	8.57E-05	E			
FF						
Low Energy Scrubber						
High Energy Scrubber	4.33E-04	2.17E-04	E			
DSI/FF	6.65E-05	3.32E-05	E			
DSI/Carbon Injection/FF	7.19E-05	3.59E-05	E			
DSI/FF/Scrubber						
DSI/ESP						

^a References 7-43. SCC = Source Classification Code.

^b FF = Fabric Filter
DSI = Dry Sorbent Injection
ESP = Electrostatic Precipitator

Table 2.6-9 (Metric and English Units). EMISSION FACTORS FOR SULFUR TRIOXIDE (SO₃) AND HYDROGEN BROMIDE (HBr) FOR CONTROLLED AIR MEDICAL WASTE INCINERATORS^a (SCC 50100505, 50200505)

Rating (A-E) Follows Each Factor

Control Level ^b	SO ₃			HBr		
	lb/ton	kg/Mg	Rating	lb/ton	kg/Mg	Rating
Uncontrolled				4.33E-02	2.16E-02	D
Low Energy Scrubber/FF						
Medium Energy Scrubber/FF				5.24E-02	2.62E-02	E
FF						
Low Energy Scrubber						
High Energy Scrubber						
DSI/FF						
DSI/Carbon Injection/FF				4.42E-03	2.21E-03	E
DSI/FF/Scrubber	9.07E-03	4.53E-03	E			
DSI/ESP						

^a References 7-43. SCC = Source Classification Code.

^b FF = Fabric Filter
 DSI = Dry Sorbent Injection
 ESP = Electrostatic Precipitator

Table 2.6-10 (Metric and English Units). EMISSION FACTORS FOR HYDROGEN FLUORIDE AND CHLORINE FOR CONTROLLED AIR MEDICAL WASTE INCINERATORS^a
(SCC 50100505, 50200505)

Rating (A-E) Follows Each Factor

Control Level ^b	Hydrogen Fluoride ^c			Chlorine ^c		
	lb/ton	kg/Mg	Rating	lb/ton	kg/Mg	Rating
Uncontrolled	1.49E-01	7.43E-02	D	1.05E-01	5.23E-02	E
Low Energy Scrubber/FF						
Medium Energy Scrubber/FF						
FF						
Low Energy Scrubber						
High Energy Scrubber						
DSI/FF						
DSI/Carbon Injection/FF	1.33E-02	6.66E-03	E			
DSI/FF/Scrubber						
DSI/ESP						

^a References 7-43. SCC = Source Classification Code.

^b FF = Fabric Filter

DSI = Dry Sorbent Injection

ESP = Electrostatic Precipitator

^c Hazardous Air Pollutants listed in Title I of the 1990 Clean Air Act Amendments.

Table 2.6-11 (Metric and English Units). CHLORINATED DIBENZO-P-DIOXIN EMISSION FACTORS FOR CONTROLLED AIR MEDICAL WASTE INCINERATORS*

(SCC 50100505, 50200505)

Rating (A-E) Follows Each Factor

Congener ^b	Uncontrolled			Fabric Filter			Wet Scrubber			DSI/FF ^c		
	lb/ton	kg/Mg	Rating	lb/ton	kg/Mg	Rating	lb/ton	kg/Mg	Rating	lb/ton	kg/Mg	Rating
TCDD												
2,3,7,8-	5.47E-08	2.73E-08	E	6.72E-09	3.36E-09	E	1.29E-10	6.45E-11	E	5.61E-10	2.81E-10	E
Total	1.00E-06	5.01E-07	B	1.23E-07	6.17E-08	E	2.67E-08	1.34E-08	E	6.50E-09	3.25E-09	E
PeCDD												
1,2,3,7,8-							6.08E-10	3.04E-10	E			
Total							5.53E-10	2.77E-10	E			
HxCDD												
1,2,3,6,7,	3.78E-10	1.89E-10	E				1.84E-09	9.05E-10	E			
8-	1.21E-09	6.07E-10	E				2.28E-09	1.14E-09	E			
1,2,3,7,8,							9.22E-10	4.61E-10	E			
9-							5.77E-10	2.89E-10	E			
1,2,3,4,7,												
8-												
Total												
HpCDD												
1,2,3,4,6,	5.23E-09	2.62E-09	E				6.94E-09	3.47E-09	E			
7,8-							1.98E-09	9.91E-10	E			
Total												
OCDD - total	2.21E-08	1.11E-08	E									
Total CDD	2.13E-05	1.07E-05	B	2.68E-06	1.34E-06	E	1.84E-06	9.18E-07	E	3.44E-07	1.72E-07	E

^a References 7-43. SCC = Source Classification Code.

^b Hazardous Air Pollutants listed in Title I of the 1990 Clean Air Act Amendments.

^c FF = Fabric Filter

DSI = Dry Sorbent Injection

Table 2.6-12 (Metric and English Units). CHLORINATED DIBENZO-P-DIOXIN EMISSION FACTORS
FOR CONTROLLED AIR MEDICAL WASTE INCINERATORS^a
(SCC 50100505, 50200505)

Rating (A-E) Follows Each Factor

Congener ^b	DSI/Carbon Injection/FF ^c			DSI/ESP ^d		
	lb/ton	kg/Mg	Rating	lb/ton	kg/Mg	Rating
TCDD 2,3,7,8- Total	8.23E-10	4.11E-10	E	1.73E-10	8.65E-11	E
PeCDD 1,2,3,7,8- Total						
HxCDD 1,2,3,6,7,8- 1,2,3,7,8,9- 1,2,3,4,7,8- Total						
HpCDD 2,3,4,6,7,8- 1,2,3,4,6,7,8- Total						
OCDD - total						
Total CDD	5.38E-08	2.69E-08	E			

^a References 7-43. SCC = Source Classification Code.

^b Hazardous Air Pollutants listed in Title I of the 1990 Clean Air Act Amendments.

^c FF = Fabric Filter

DSI = Dry Sorbent Injection

^d ESP = Electrostatic Precipitator

Table 2.6-13 (Metric and English Units). CHLORINATED DIBENZOFURAN EMISSION FACTORS FOR CONTROLLED AIR MEDICAL WASTE INCINERATORS^a (SCC 50100505, 50200505)

Rating (A-E) Follows Each Factor

Congener ^b	Uncontrolled			Fabric Filter			Wet Scrubber			DSI/FF ^c		
	lb/ton	kg/Mg	Rating	lb/ton	kg/Mg	Rating	lb/ton	kg/Mg	Rating	lb/ton	kg/Mg	Rating
TCDF												
2,3,7,8-	2.40E-07	1.20E-07	E	3.85E-08	1.97E-08	E	1.26E-08	6.30E-09	E	4.93E-09	2.47E-09	E
Total	7.21E-06	3.61E-06	B	1.28E-06	6.39E-07	E	4.45E-07	2.22E-07	E	1.39E-07	6.96E-08	E
PeCDF												
1,2,3,7,8-	7.56E-10	3.78E-10	E				1.04E-09	5.22E-10	E			
2,3,4,7,8-	2.07E-09	1.04E-09	E				3.07E-09	1.53E-09	E			
Total							6.18E-09	3.09E-09	E			
HxCDF												
1,2,3,4,7,8-	7.55E-09	3.77E-09	E				8.96E-09	4.48E-09	E			
1,2,3,6,7,8-	2.53E-09	1.26E-09	E				3.53E-09	1.76E-09	E			
2,3,4,6,7,8-	7.18E-09	3.59E-09	E				9.59E-09	4.80E-09	E			
1,2,3,7,8,9-							3.51E-10	1.76E-10	E			
Total							5.10E-09	2.55E-09	E			
HpCDF												
1,2,3,4,6,7,8	1.76E-08	8.78E-09	E				1.79E-08	8.97E-09	E			
-	2.72E-09	1.36E-09	E				3.50E-09	1.75E-09	E			
1,2,3,4,7,8,9							1.91E-09	9.56E-10	E			
-												
Total												
OCDF - total	7.42E-08	3.71E-08	E				4.91E-10	2.45E-10	E			
Total CDF	7.15E-05	3.58E-05	B	8.50E-06	4.25E-06	E	4.92E-06	2.46E-06	E	1.47E-06	7.37E-07	E

^a References 7-43. SCC = Source Classification Code.

^b Hazardous Air Pollutants listed in Title I of the 1990 Clean Air Act Amendments.

^c FF = Fabric Filter

DSI = Dry Sorbent Injection

Table 2.6-14 (Metric and English Units). CHLORINATED DIBENZOFURANS EMISSION FACTORS
FOR CONTROLLED AIR MEDICAL WASTE INCINERATORS^a
(SCC 50100505, 50200505)

Rating (A-E) Follows Each Factor

Congener ^b	DSI/Carbon Injection/FF ^c			DSI/ESP ^d		
	lb/ton	kg/Mg	Rating	lb/ton	kg/Mg	Rating
TCDF 2,3,7,8- Total	7.31E-10 1.01E-08	3.65E-10 5.07E-09	E E	1.73E-09	8.66E-10	E
PeCDF 1,2,3,7,8- 2,3,4,7,8- Total						
HxCDF 1,2,3,4,7,8- 1,2,3,6,7,8- 2,3,4,6,7,8- 1,2,3,7,8,9- Total						
HpCDF 1,2,3,4,6,7,8 - 1,2,3,4,7,8,9 - Total						
OCDF - total						
Total CDF	9.47E-08	4.74E-08	E			

^a References 7-43. SCC = Source Classification Code.

^b Hazardous Air Pollutants listed in Title I of the 1990 Clean Air Act Amendments.

^c FF = Fabric Filter

DSI = Dry Sorbent Injection

^d ESP = Electrostatic Precipitator

Table 2.6-15. PARTICLE SIZE DISTRIBUTION FOR
 CONTROLLED AIR MEDICAL WASTE INCINERATOR
 PARTICULATE MATTER EMISSIONS^a
 (SCC 50100505, 50200505)

EMISSION FACTOR RATING = E

Cut Diameter (microns)	Uncontrolled Cumulative Mass % less than Stated Size	Scrubber Cumulative Mass % less than Stated Size
0.625	31.1	0.1
1.0	35.4	0.2
2.5	43.3	2.7
5.0	52.0	28.1
10.0	65.0	71.9

^a References 7-43. SCC = Source Classification Code.

Table 2.6-16 (Metric and English Units). ROTARY KILN MEDICAL WASTE INCINERATOR EMISSION FACTORS FOR CRITERIA POLLUTANTS AND ACID GASES^a
(SCC 50100505, 50200505)

EMISSION FACTOR RATING = E

Pollutant	Uncontrolled		SD/Fabric Filter ^b		SD/Carbon Injection/FF ^c		High Energy Scrubber	
	lb/ton	kg/Mg	lb/ton	kg/Mg	lb/ton	kg/Mg	lb/ton	kg/Mg
Carbon monoxide	3.82E-01	1.91E-01	3.89E-02	1.94E-02	4.99E-02	2.50E-02	5.99E-02	3.00E-02
Nitrogen oxides	4.63E+00	2.31E+00	5.25E+00	2.63E+00	4.91E+00	2.45E+00	4.08E+00	2.04E+00
Sulfur dioxide	1.09E+00	5.43E-01	6.47E-01	3.24E-01	3.00E-01	1.50E-01		
PM	3.45E+01	1.73E+01	3.09E-01	1.54E-01	7.56E-02	3.78E-02	8.53E-01	4.27E-01
TOC	6.66E-02	3.33E-02	4.11E-02	2.05E-02	5.05E-02	2.53E-02	2.17E-02	1.08E-02
HCl	4.42E+01	2.21E+01	2.68E-01	1.34E-01	3.57E-01	1.79E-01	2.94E+01	1.47E+01
HF	9.31E-02	4.65E-02	2.99E-02	1.50E-02				
HBr	1.05E+00	5.25E-01	6.01E-02	3.00E-02	1.90E-02	9.48E-03		
H ₂ SO ₄							2.98E+00	1.49E+00

^a References 7-43. SCC = Source Classification Code.

^b SD = Spray Dryer

^c FF = Fabric Filter

Table 2.6-17 (Metric and English Units). ROTARY KILN MEDICAL WASTE INCINERATOR
EMISSION FACTORS FOR METALS^a
(SCC 50100505, 50200505)

EMISSION FACTOR RATING = E

Pollutant	Uncontrolled		SD/Fabric Filter ^b		SD/Carbon Injection/FF ^c	
	lb/ton	kg/Mg	lb/ton	kg/Mg	lb/ton	kg/Mg
Aluminum	6.13E-01	3.06E-01	4.18E-03	2.09E-03	2.62E-03	1.31E-03
Antimony	1.99E-02	9.96E-03	2.13E-04	1.15E-04	1.41E-04	7.04E-05
Arsenic	3.32E-04	1.66E-04				
Barium	8.93E-02	4.46E-02	2.71E-04	1.35E-04	1.25E-04	6.25E-05
Beryllium	4.81E-05	2.41E-05	5.81E-06	2.91E-06		
Cadmium	1.51E-02	7.53E-03	5.36E-05	2.68E-05	2.42E-05	1.21E-05
Chromium	4.43E-03	2.21E-03	9.85E-05	4.92E-05	7.73E-05	3.86E-05
Copper	1.95E-01	9.77E-02	6.23E-04	3.12E-04	4.11E-04	2.06E-04
Lead	1.24E-01	6.19E-02	1.89E-04	9.47E-05	7.38E-05	3.69E-05
Mercury	8.68E-02	4.34E-02	6.65E-02	3.33E-02	7.86E-03	3.93E-03
Nickel	3.53E-03	1.77E-03	8.69E-05	4.34E-05	3.58E-05	1.79E-05
Silver	1.30E-04	6.51E-05	9.23E-05	4.61E-05	8.05E-05	4.03E-05
Thallium	7.58E-04	3.79E-04				

^a References 7-43. SCC = Source Classification Code.

^b SD = Spray Dryer

^c FF = Fabric Filter

Table 2.6-18 (Metric and English Units). ROTARY KILN MEDICAL WASTE INCINERATOR EMISSION FACTORS FOR DIOXINS AND FURANS^a
(SCC 50100505, 50200505)

EMISSION FACTOR RATING = E

Congener	Uncontrolled		SD/Fabric Filter ^b		SD/Carbon Injection/FF ^c	
	lb/ton	kg/Mg	lb/ton	kg/Mg	lb/ton	kg/Mg
2,3,7,8-TCDD	6.61E-10	3.30E-10	4.52E-10	2.26E-10	6.42E-11	3.21E-11
Total TCDD	7.23E-09	3.61E-09	4.16E-09	2.08E-09	1.55E-10	7.77E-11
Total CDD	7.49E-07	3.75E-07	5.79E-08	2.90E-08	2.01E-08	1.01E-08
2,3,7,8-TCDF	1.67E-08	8.37E-09	1.68E-08	8.42E-09	4.96E-10	2.48E-10
Total TCDF	2.55E-07	1.27E-07	1.92E-07	9.58E-08	1.15E-08	5.74E-09
Total CDF	5.20E-06	2.60E-06	7.91E-07	3.96E-07	7.57E-08	3.78E-08

^a References 7-43. SCC = Source Classification Code.

^b SD = Spray Dryer

^c FF = Fabric Filter

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Appendix D - Standard Metropolitan Statistical Areas

METROPOLITAN AREAS AND COMPONENTS, 1993, WITH FIPS CODES

(Metropolitan areas defined by Office of Management and Budget, 6/30/93)

Source: U.S. Census Bureau
 Internet Release date: September, 1996
 Revised date: November 3, 1998

The file layout is located at the end of the data file.

GUIDE TO FIPS CODES:

MSA= Metropolitan Statistical Area
 CMSA= Consolidated Metropolitan Statistical Area
 PMSA= Primary Metropolitan Statistical Area
 ALT. CM= Alternative Consolidated Metropolitan Statistical Area
 SS= State
 CCC= County
 EEEEE= Entity (city/town)

MSA/ CMSA	ALT. PMSA	CM	SS	CCC	EEEE	EEEE	Metropolitan Area and Components
0040							Abilene, TX MSA
0040		48	441				Taylor County
0060							Aguadilla, PR MSA
0060		72	003				Aguada Municipio
0060		72	005				Aguadilla Municipio
0060		72	099				Moca Municipio
0120							Albany, GA MSA
0120		13	095				Dougherty County
0120		13	177				Lee County
0160							Albany-Schenectady-Troy, NY MSA
0160		36	001				Albany County
0160		36	057				Montgomery County
0160		36	083				Rensselaer County
0160		36	091				Saratoga County
0160		36	093				Schenectady County
0160		36	095				Schoharie County
0200							Albuquerque, NM MSA
0200		35	001				Bernalillo County
0200		35	043				Sandoval County
0200		35	061				Valencia County
0220							Alexandria, LA MSA
0220		22	079				Rapides Parish
0240							Allentown-Bethlehem-Easton, PA MSA
0240		42	025				Carbon County
0240		42	077				Lehigh County
0240		42	095				Northampton County
0280							Altoona, PA MSA
0280		42	013				Blair County
0320							Amarillo, TX MSA
0320		48	375				Potter County
0320		48	381				Randall County
0380							Anchorage, AK MSA
0380		02	020				Anchorage Borough
0450							Anniston, AL MSA

0450	01 015	Calhoun County
0460		Appleton-Oshkosh-Neenah, WI MSA
0460	55 015	Calumet County
0460	55 087	Outagamie County
0460	55 139	Winnebago County
0480		Asheville, NC MSA
0480	37 021	Buncombe County
0480	37 115	Madison County
0500		Athens, GA MSA
0500	13 059	Clarke County
0500	13 195	Madison County
0500	13 219	Oconee County
0520		Atlanta, GA MSA
0520	13 013	Barrow County
0520	13 015	Bartow County
0520	13 045	Carroll County
0520	13 057	Cherokee County
0520	13 063	Clayton County
0520	13 067	Cobb County
0520	13 077	Coweta County
0520	13 089	DeKalb County
0520	13 097	Douglas County
0520	13 113	Fayette County
0520	13 117	Forsyth County
0520	13 121	Fulton County
0520	13 135	Gwinnett County
0520	13 151	Henry County
0520	13 217	Newton County
0520	13 223	Paulding County
0520	13 227	Pickens County
0520	13 247	Rockdale County
0520	13 255	Spalding County
0520	13 297	Walton County
0600		Augusta-Aiken, GA-SC MSA
0600	13 073	Columbia County, GA
0600	13 189	McDuffie County, GA
0600	13 245	Richmond County, GA
0600	45 003	Aiken County, SC
0600	45 037	Edgefield County, SC
0640		Austin-San Marcos, TX MSA
0640	48 021	Bastrop County
0640	48 055	Caldwell County
0640	48 209	Hays County
0640	48 453	Travis County
0640	48 491	Williamson County
0680		Bakersfield, CA MSA
0680	06 029	Kern County
0730		Bangor, ME MSA
0730	23 019	Penobscot County (pt.)
0730	23 019 02795	Bangor city
0730	23 019 06925	Brewer city
0730	23 019 22535	Eddington town
0730	23 019 27645	Glenburn town
0730	23 019 30795	Hampden town
0730	23 019 32510	Hermon town
0730	23 019 33490	Holden town
0730	23 019 36325	Kenduskeag town
0730	23 019 45670	Milford town
0730	23 019 55225	Old Town city
0730	23 019 55565	Orono town
0730	23 019 55680	Orrington town
0730	23 019 57937	Penobscot Indian Island Reservation

0730	23 019 78780	Veazie town
0730	23 027	Waldo County (pt.)
0730	23 027 86760	Winterport town
0740		Barnstable-Yarmouth, MA MSA
0740	25 001	Barnstable County (pt.)
0740	25 001 03635	Barnstable town
0740	25 001 07980	Brewster town
0740	25 001 12995	Chatham town
0740	25 001 16775	Dennis town
0740	25 001 19295	Eastham town
0740	25 001 29020	Harwich town
0740	25 001 39100	Mashpee town
0740	25 001 51440	Orleans town
0740	25 001 59735	Sandwich town
0740	25 001 82525	Yarmouth town
0760		Baton Rouge, LA MSA
0760	22 005	Ascension Parish
0760	22 033	East Baton Rouge Parish
0760	22 063	Livingston Parish
0760	22 121	West Baton Rouge Parish
0840		Beaumont-Port Arthur, TX MSA
0840	48 199	Hardin County
0840	48 245	Jefferson County
0840	48 361	Orange County
0860		Bellingham, WA MSA
0860	53 073	Whatcom County
0870		Benton Harbor, MI MSA
0870	26 021	Berrien County
0880		Billings, MT MSA
0880	30 111	Yellowstone County
0920		Biloxi-Gulfport-Pascagoula, MS MSA
0920	28 045	Hancock County
0920	28 047	Harrison County
0920	28 059	Jackson County
0960		Binghamton, NY MSA
0960	36 007	Broome County
0960	36 107	Tioga County
1000		Birmingham, AL MSA
1000	01 009	Blount County
1000	01 073	Jefferson County
1000	01 115	St. Clair County
1000	01 117	Shelby County
1010		Bismarck, ND MSA
1010	38 015	Burleigh County
1010	38 059	Morton County
1020		Bloomington, IN MSA
1020	18 105	Monroe County
1040		Bloomington-Normal, IL MSA
1040	17 113	McLean County
1080		Boise City, ID MSA
1080	16 001	Ada County
1080	16 027	Canyon County
1122	07	Boston-Worcester-Lawrence, MA-NH-ME-CT CMSA
1122	1120 07	Boston, MA-NH PMSA
1122	1120 07 25 005	Bristol County, MA (pt.)
1122	1120 07 25 005 05280	Berkley town

1122	1120	07	25	005	16950	Dighton town
1122	1120	07	25	005	38225	Mansfield town
1122	1120	07	25	005	49970	Norton town
1122	1120	07	25	005	69170	Taunton city
1122	1120	07	25	009		Essex County, MA (pt.)
1122	1120	07	25	009	01185	Amesbury town
1122	1120	07	25	009	05595	Beverly city
1122	1120	07	25	009	16250	Danvers town
1122	1120	07	25	009	21850	Essex town
1122	1120	07	25	009	26150	Gloucester city
1122	1120	07	25	009	27900	Hamilton town
1122	1120	07	25	009	32310	Ipswich town
1122	1120	07	25	009	37490	Lynn city
1122	1120	07	25	009	37560	Lynnfield town
1122	1120	07	25	009	37945	Manchester town
1122	1120	07	25	009	38400	Marblehead town
1122	1120	07	25	009	41095	Middleton town
1122	1120	07	25	009	43580	Nahant town
1122	1120	07	25	009	45175	Newbury town
1122	1120	07	25	009	45245	Newburyport city
1122	1120	07	25	009	52490	Peabody city
1122	1120	07	25	009	57880	Rockport town
1122	1120	07	25	009	58405	Rowley town
1122	1120	07	25	009	59105	Salem city
1122	1120	07	25	009	59245	Salisbury town
1122	1120	07	25	009	60015	Saugus town
1122	1120	07	25	009	68645	Swampscott town
1122	1120	07	25	009	70150	Topsfield town
1122	1120	07	25	009	74595	Wenham town
1122	1120	07	25	017		Middlesex County, MA (pt.)
1122	1120	07	25	017	00380	Acton town
1122	1120	07	25	017	01605	Arlington town
1122	1120	07	25	017	02130	Ashland town
1122	1120	07	25	017	03005	Ayer town
1122	1120	07	25	017	04615	Bedford town
1122	1120	07	25	017	05070	Belmont town
1122	1120	07	25	017	07350	Boxborough town
1122	1120	07	25	017	09840	Burlington town
1122	1120	07	25	017	11000	Cambridge city
1122	1120	07	25	017	11525	Carlisle town
1122	1120	07	25	017	15060	Concord town
1122	1120	07	25	017	21990	Everett city
1122	1120	07	25	017	24925	Framingham town
1122	1120	07	25	017	30700	Holliston town
1122	1120	07	25	017	31085	Hopkinton town
1122	1120	07	25	017	31540	Hudson town
1122	1120	07	25	017	35215	Lexington town
1122	1120	07	25	017	35425	Lincoln town
1122	1120	07	25	017	35950	Littleton town
1122	1120	07	25	017	37875	Malden city
1122	1120	07	25	017	38715	Marlborough city
1122	1120	07	25	017	39625	Maynard town
1122	1120	07	25	017	39835	Medford city
1122	1120	07	25	017	40115	Melrose city
1122	1120	07	25	017	43895	Natick town
1122	1120	07	25	017	45560	Newton city
1122	1120	07	25	017	48955	North Reading town
1122	1120	07	25	017	56130	Reading town
1122	1120	07	25	017	61380	Sherborn town
1122	1120	07	25	017	61590	Shirley town
1122	1120	07	25	017	62535	Somerville city
1122	1120	07	25	017	67665	Stoneham town
1122	1120	07	25	017	68050	Stow town
1122	1120	07	25	017	68260	Sudbury town
1122	1120	07	25	017	70360	Townsend town
1122	1120	07	25	017	72215	Wakefield town
1122	1120	07	25	017	72600	Waltham city
1122	1120	07	25	017	73405	Watertown town
1122	1120	07	25	017	73790	Wayland town
1122	1120	07	25	017	77255	Weston town
1122	1120	07	25	017	80230	Wilmington town

1122 1120 07 25 017 80510	Winchester town
1122 1120 07 25 017 81035	Woburn city
1122 1120 07 25 021	Norfolk County, MA (pt.)
1122 1120 07 25 021 04930	Bellingham town
1122 1120 07 25 021 07665	Braintree town
1122 1120 07 25 021 09175	Brookline town
1122 1120 07 25 021 11315	Canton town
1122 1120 07 25 021 14640	Cohasset town
1122 1120 07 25 021 16495	Dedham town
1122 1120 07 25 021 17405	Dover town
1122 1120 07 25 021 24820	Foxborough town
1122 1120 07 25 021 25065	Franklin town
1122 1120 07 25 021 30455	Holbrook town
1122 1120 07 25 021 39765	Medfield town
1122 1120 07 25 021 39975	Medway town
1122 1120 07 25 021 41515	Millis town
1122 1120 07 25 021 41690	Milton town
1122 1120 07 25 021 44105	Needham town
1122 1120 07 25 021 46050	Norfolk town
1122 1120 07 25 021 50250	Norwood town
1122 1120 07 25 021 54100	Plainville town
1122 1120 07 25 021 55745	Quincy city
1122 1120 07 25 021 55955	Randolph town
1122 1120 07 25 021 60785	Sharon town
1122 1120 07 25 021 67945	Stoughton town
1122 1120 07 25 021 72495	Walpole town
1122 1120 07 25 021 74175	Wellesley town
1122 1120 07 25 021 78690	Westwood town
1122 1120 07 25 021 78865	Weymouth town
1122 1120 07 25 021 82315	Wrentham town
1122 1120 07 25 023	Plymouth County, MA (pt.)
1122 1120 07 25 023 11665	Carver town
1122 1120 07 25 023 17895	Duxbury town
1122 1120 07 25 023 28285	Hanover town
1122 1120 07 25 023 30210	Hingham town
1122 1120 07 25 023 31645	Hull town
1122 1120 07 25 023 33220	Kingston town
1122 1120 07 25 023 38855	Marshfield town
1122 1120 07 25 023 50145	Norwell town
1122 1120 07 25 023 52630	Pembroke town
1122 1120 07 25 023 54310	Plymouth town
1122 1120 07 25 023 57775	Rockland town
1122 1120 07 25 023 60330	Scituate town
1122 1120 07 25 023 72985	Wareham town
1122 1120 07 25 025	Suffolk County, MA
1122 1120 07 25 025 07000	Boston city
1122 1120 07 25 025 13205	Chelsea city
1122 1120 07 25 025 56585	Revere city
1122 1120 07 25 025 80930	Winthrop town
1122 1120 07 25 027	Worcester County, MA (pt.)
1122 1120 07 25 027 05490	Berlin town
1122 1120 07 25 027 06015	Blackstone town
1122 1120 07 25 027 06365	Bolton town
1122 1120 07 25 027 28950	Harvard town
1122 1120 07 25 027 30945	Hopedale town
1122 1120 07 25 027 34165	Lancaster town
1122 1120 07 25 027 40255	Mendon town
1122 1120 07 25 027 41165	Milford town
1122 1120 07 25 027 41585	Millville town
1122 1120 07 25 027 63165	Southborough town
1122 1120 07 25 027 71480	Upton town
1122 1120 07 33 015	Rockingham County, NH (pt.)
1122 1120 07 33 015 68260	Seabrook town
1122 1120 07 33 015 71140	South Hampton town
1122 1200 07	Brockton, MA PMSA
1122 1200 07 25 005	Bristol County (pt.)
1122 1200 07 25 005 20100	Easton town
1122 1200 07 25 005 56060	Raynham town
1122 1200 07 25 021	Norfolk County (pt.)
1122 1200 07 25 021 02935	Avon town
1122 1200 07 25 023	Plymouth County (pt.)

1122 1200 07 25 023 00170	Abington town
1122 1200 07 25 023 08085	Bridgewater town
1122 1200 07 25 023 09000	Brockton city
1122 1200 07 25 023 18455	East Bridgewater town
1122 1200 07 25 023 27795	Halifax town
1122 1200 07 25 023 28495	Hanson town
1122 1200 07 25 023 33920	Lakeville town
1122 1200 07 25 023 40850	Middleborough town
1122 1200 07 25 023 54415	Plympton town
1122 1200 07 25 023 75260	West Bridgewater town
1122 1200 07 25 023 79530	Whitman town
1122 2600 07	Fitchburg-Leominster, MA PMSA
1122 2600 07 25 017	Middlesex County (pt.)
1122 2600 07 25 017 01955	Ashby town
1122 2600 07 25 027	Worcester County (pt.)
1122 2600 07 25 027 01885	Ashburnham town
1122 2600 07 25 027 23875	Fitchburg city
1122 2600 07 25 027 25485	Gardner city
1122 2600 07 25 027 35075	Leominster city
1122 2600 07 25 027 37420	Lunenburg town
1122 2600 07 25 027 69275	Templeton town
1122 2600 07 25 027 77010	Westminster town
1122 2600 07 25 027 80405	Winchendon town
1122 4160 07	Lawrence, MA-NH PMSA
1122 4160 07 25 009	Essex County, MA (pt.)
1122 4160 07 25 009 01465	Andover town
1122 4160 07 25 009 07420	Boxford town
1122 4160 07 25 009 25625	Georgetown town
1122 4160 07 25 009 27620	Groveland town
1122 4160 07 25 009 29405	Haverhill city
1122 4160 07 25 009 34550	Lawrence city
1122 4160 07 25 009 40430	Merrimac town
1122 4160 07 25 009 40675	Methuen town
1122 4160 07 25 009 46365	North Andover town
1122 4160 07 25 009 77150	West Newbury town
1122 4160 07 33 015	Rockingham County, NH (pt.)
1122 4160 07 33 015 02340	Atkinson town
1122 4160 07 33 015 12100	Chester town
1122 4160 07 33 015 17140	Danville town
1122 4160 07 33 015 17940	Derry town
1122 4160 07 33 015 27940	Fremont town
1122 4160 07 33 015 32900	Hampstead town
1122 4160 07 33 015 40100	Kingston town
1122 4160 07 33 015 52900	Newton town
1122 4160 07 33 015 62500	Plaistow town
1122 4160 07 33 015 64020	Raymond town
1122 4160 07 33 015 66660	Salem town
1122 4160 07 33 015 67620	Sandown town
1122 4160 07 33 015 85780	Windham town
1122 4560 07	Lowell, MA-NH PMSA
1122 4560 07 25 017	Middlesex County, MA (pt.)
1122 4560 07 25 017 05805	Billerica town
1122 4560 07 25 017 13135	Chelmsford town
1122 4560 07 25 017 17475	Dracut town
1122 4560 07 25 017 17825	Dunstable town
1122 4560 07 25 017 27480	Groton town
1122 4560 07 25 017 37000	Lowell city
1122 4560 07 25 017 52805	Pepperell town
1122 4560 07 25 017 69415	Tewksbury town
1122 4560 07 25 017 71025	Tyngsborough town
1122 4560 07 25 017 76135	Westford town
1122 4560 07 33 011	Hillsborough County, NH (pt.)
1122 4560 07 33 011 59940	Pelham town
1122 4760 07	Manchester, NH PMSA
1122 4760 07 33 011	Hillsborough County (pt.)
1122 4760 07 33 011 04500	Bedford town
1122 4760 07 33 011 29860	Goffstown town
1122 4760 07 33 011 45140	Manchester city
1122 4760 07 33 11 79780	Weare town
1122 4760 07 33 013	Merrimack County (pt.)
1122 4760 07 33 013 00660	Allenstown town

1122 4760 07 33 013 37300	Hooksett town
1122 4760 07 33 015	Rockingham County (pt.)
1122 4760 07 33 015 02820	Auburn town
1122 4760 07 33 015 09300	Candia town
1122 4760 07 33 015 43220	Londonderry town
1122 5350 07	Nashua, NH PMSA
1122 5350 07 33 011	Hillsborough County (pt.)
1122 5350 07 33 011 01300	Amherst town
1122 5350 07 33 011 08100	Brookline town
1122 5350 07 33 011 31940	Greenville town
1122 5350 07 33 011 37140	Hollis town
1122 5350 07 33 011 37940	Hudson town
1122 5350 07 33 011 42260	Litchfield town
1122 5350 07 33 011 46260	Mason town
1122 5350 07 33 011 47540	Merrimack town
1122 5350 07 33 011 48020	Milford town
1122 5350 07 33 011 49140	Mont Vernon town
1122 5350 07 33 011 50260	Nashua city
1122 5350 07 33 011 51940	New Ipswich town
1122 5350 07 33 011 85220	Wilton town
1122 5400 07	New Bedford, MA PMSA
1122 5400 07 25 005	Bristol County (pt.)
1122 5400 07 25 005 00520	Acushnet town
1122 5400 07 25 005 16425	Dartmouth town
1122 5400 07 25 005 22130	Fairhaven town
1122 5400 07 25 005 25240	Freetown town
1122 5400 07 25 005 45000	New Bedford city
1122 5400 07 25 023	Plymouth County (pt.)
1122 5400 07 25 023 38540	Marion town
1122 5400 07 25 023 39450	Mattapoissett town
1122 5400 07 25 023 57600	Rochester town
1122 6450 07	Portsmouth-Rochester, NH-ME PMSA
1122 6450 07 23 031	York County, ME (pt.)
1122 6450 07 23 031 04720	Berwick town
1122 6450 07 23 031 22955	Eliot town
1122 6450 07 23 031 37270	Kittery town
1122 6450 07 23 031 70030	South Berwick town
1122 6450 07 23 031 87985	York town
1122 6450 07 33 015	Rockingham County, NH (pt.)
1122 6450 07 33 015 07220	Brentwood town
1122 6450 07 33 015 21380	East Kingston town
1122 6450 07 33 015 24660	Epping town
1122 6450 07 33 015 25380	Exeter town
1122 6450 07 33 015 31700	Greenland town
1122 6450 07 33 015 33060	Hampton town
1122 6450 07 33 015 33460	Hampton Falls town
1122 6450 07 33 015 39780	Kensington town
1122 6450 07 33 015 50980	New Castle town
1122 6450 07 33 015 51380	Newfields town
1122 6450 07 33 015 51620	Newington town
1122 6450 07 33 015 52340	Newmarket town
1122 6450 07 33 015 54580	North Hampton town
1122 6450 07 33 015 62900	Portsmouth city
1122 6450 07 33 015 66180	Rye town
1122 6450 07 33 015 74340	Stratham town
1122 6450 07 33 017	Strafford County, NH (pt.)
1122 6450 07 33 017 03460	Barrington town
1122 6450 07 33 017 18820	Dover city
1122 6450 07 33 017 19700	Durham town
1122 6450 07 33 017 26020	Farmington town
1122 6450 07 33 017 41460	Lee town
1122 6450 07 33 017 44820	Madbury town
1122 6450 07 33 017 48660	Milton town
1122 6450 07 33 017 65140	Rochester city
1122 6450 07 33 017 65540	Rollinsford town
1122 6450 07 33 017 69940	Somersworth city
1122 9240 07	Worcester, MA-CT PMSA
1122 9240 07 09 015	Windham County, CT (pt.)
1122 9240 07 09 015 75870	Thompson town
1122 9240 07 25 013	Hampden County, MA (pt.)
1122 9240 07 25 013 30665	Holland town

1122	9240	07	25	027	Worcester County, MA (pt.)
1122	9240	07	25	027 02760	Auburn town
1122	9240	07	25	027 03740	Barre town
1122	9240	07	25	027 07525	Boylston town
1122	9240	07	25	027 09105	Brookfield town
1122	9240	07	25	027 12715	Charlton town
1122	9240	07	25	027 14395	Clinton town
1122	9240	07	25	027 17300	Douglas town
1122	9240	07	25	027 17685	Dudley town
1122	9240	07	25	027 18560	East Brookfield town
1122	9240	07	25	027 26430	Grafton town
1122	9240	07	25	027 30560	Holden town
1122	9240	07	25	027 34795	Leicester town
1122	9240	07	25	027 41340	Millbury town
1122	9240	07	25	027 46820	Northborough town
1122	9240	07	25	027 46925	Northbridge town
1122	9240	07	25	027 47135	North Brookfield town
1122	9240	07	25	027 50670	Oakham town
1122	9240	07	25	027 51825	Oxford town
1122	9240	07	25	027 52420	Paxton town
1122	9240	07	25	027 55395	Princeton town
1122	9240	07	25	027 58825	Rutland town
1122	9240	07	25	027 61800	Shrewsbury town
1122	9240	07	25	027 63270	Southbridge town
1122	9240	07	25	027 66105	Spencer town
1122	9240	07	25	027 67385	Sterling town
1122	9240	07	25	027 68155	Sturbridge town
1122	9240	07	25	027 68610	Sutton town
1122	9240	07	25	027 71620	Uxbridge town
1122	9240	07	25	027 73895	Webster town
1122	9240	07	25	027 75015	Westborough town
1122	9240	07	25	027 75155	West Boylston town
1122	9240	07	25	027 75400	West Brookfield town
1122	9240	07	25	027 82000	Worcester city
1240					Brownsville-Harlingen-San Benito, TX MSA
1240		48	061		Cameron County
1260					Bryan-College Station, TX MSA
1260		48	041		Brazos County
1280					Buffalo-Niagara Falls, NY MSA
1280		36	029		Erie County
1280		36	063		Niagara County
1305					Burlington, VT MSA
1305		50	007		Chittenden County (pt.)
1305		50	007	10675	Burlington city
1305		50	007	13300	Charlotte town
1305		50	007	14875	Colchester town
1305		50	007	24175	Essex town
1305		50	007	33475	Hinesburg town
1305		50	007	36700	Jericho town
1305		50	007	45250	Milton town
1305		50	007	59275	Richmond town
1305		50	007	62050	St. George town
1305		50	007	64300	Shelburne town
1305		50	007	66175	South Burlington city
1305		50	007	84475	Williston town
1305		50	007	85150	Winooski city
1305		50	011		Franklin County (pt.)
1305		50	011	24925	Fairfax town
1305		50	011	27700	Georgia town
1305		50	011	61675	St. Albans city
1305		50	011	61750	St. Albans town
1305		50	011	71725	Swanton town
1305		50	013		Grand Isle County (pt.)
1305		50	013	29275	Grand Isle town
1305		50	013	67000	South Hero town

1320		Canton-Massillon, OH MSA
1320	39 019	Carroll County
1320	39 151	Stark County
1350		Casper, WY MSA
1350	56 025	Natrona County
1360		Cedar Rapids, IA MSA
1360	19 113	Linn County
1400		Champaign-Urbana, IL MSA
1400	17 019	Champaign County
1440		Charleston-North Charleston, SC MSA
1440	45 015	Berkeley County
1440	45 019	Charleston County
1440	45 035	Dorchester County
1480		Charleston, WV MSA
1480	54 039	Kanawha County
1480	54 079	Putnam County
1520		Charlotte-Gastonia-Rock Hill, NC-SC MSA
1520	37 025	Cabarrus County, NC
1520	37 071	Gaston County, NC
1520	37 109	Lincoln County, NC
1520	37 119	Mecklenburg County, NC
1520	37 159	Rowan County, NC
1520	37 179	Union County, NC
1520	45 091	York County, SC
1540		Charlottesville, VA MSA
1540	51 003	Albemarle County
1540	51 065	Fluvanna County
1540	51 079	Greene County
1540	51 540	Charlottesville city
1560		Chattanooga, TN-GA MSA
1560	13 047	Catoosa County, GA
1560	13 083	Dade County, GA
1560	13 295	Walker County, GA
1560	47 065	Hamilton County, TN
1560	47 115	Marion County, TN
1580		Cheyenne, WY MSA
1580	56 021	Laramie County
1602	14	Chicago-Gary-Kenosha, IL-IN-WI CMSA
1602	1600 14	Chicago, IL PMSA
1602	1600 14 17 031	Cook County
1602	1600 14 17 037	DeKalb County
1602	1600 14 17 043	DuPage County
1602	1600 14 17 063	Grundy County
1602	1600 14 17 089	Kane County
1602	1600 14 17 093	Kendall County
1602	1600 14 17 097	Lake County
1602	1600 14 17 111	McHenry County
1602	1600 14 17 197	Will County
1602	2960 14	Gary, IN PMSA
1602	2960 14 18 089	Lake County
1602	2960 14 18 127	Porter County
1602	3740 14	Kankakee, IL PMSA
1602	3740 14 17 091	Kankakee County
1602	3800 14	Kenosha, WI PMSA
1602	3800 14 55 059	Kenosha County
1620		Chico-Paradise, CA MSA
1620	06 007	Butte County
1642	21	Cincinnati-Hamilton, OH-KY-IN CMSA

1642	1640	21		Cincinnati, OH-KY-IN PMSA
1642	1640	21	18 029	Dearborn County, IN
1642	1640	21	18 115	Ohio County, IN
1642	1640	21	21 015	Boone County, KY
1642	1640	21	21 037	Campbell County, KY
1642	1640	21	21 077	Gallatin County, KY
1642	1640	21	21 081	Grant County, KY
1642	1640	21	21 117	Kenton County, KY
1642	1640	21	21 191	Pendleton County, KY
1642	1640	21	39 015	Brown County, OH
1642	1640	21	39 025	Clermont County, OH
1642	1640	21	39 061	Hamilton County, OH
1642	1640	21	39 165	Warren County, OH
1642	3200	21		Hamilton-Middletown, OH PMSA
1642	3200	21	39 017	Butler County
1660				Clarksville-Hopkinsville, TN-KY MSA
1660		21	047	Christian County, KY
1660		47	125	Montgomery County, TN
1692		28		Cleveland-Akron, OH CMSA
1692	0080	28		Akron, OH PMSA
1692	0080	28	39 133	Portage County
1692	0080	28	39 153	Summit County
1692	1680	28		Cleveland-Lorain-Elyria, OH PMSA
1692	1680	28	39 007	Ashtabula County
1692	1680	28	39 035	Cuyahoga County
1692	1680	28	39 055	Geauga County
1692	1680	28	39 085	Lake County
1692	1680	28	39 093	Lorain County
1692	1680	28	39 103	Medina County
1720				Colorado Springs, CO MSA
1720		08	041	El Paso County
1740				Columbia, MO MSA
1740		29	019	Boone County
1760				Columbia, SC MSA
1760		45	063	Lexington County
1760		45	079	Richland County
1800				Columbus, GA-AL MSA
1800		01	113	Russell County, AL
1800		13	053	Chattahoochee County, GA
1800		13	145	Harris County, GA
1800		13	215	Muscogee County, GA
1840				Columbus, OH MSA
1840		39	041	Delaware County
1840		39	045	Fairfield County
1840		39	049	Franklin County
1840		39	089	Licking County
1840		39	097	Madison County
1840		39	129	Pickaway County
1880				Corpus Christi, TX MSA
1880		48	355	Nueces County
1880		48	409	San Patricio County
1900				Cumberland, MD-WV MSA
1900		24	001	Allegany County, MD
1900		54	057	Mineral County, WV
1922		31		Dallas-Fort Worth, TX CMSA
1922	1920	31		Dallas, TX PMSA
1922	1920	31	48 085	Collin County
1922	1920	31	48 113	Dallas County
1922	1920	31	48 121	Denton County
1922	1920	31	48 139	Ellis County

1922	1920	31	48	213	Henderson County
1922	1920	31	48	231	Hunt County
1922	1920	31	48	257	Kaufman County
1922	1920	31	48	397	Rockwall County
1922	2800	31			Fort Worth-Arlington, TX PMSA
1922	2800	31	48	221	Hood County
1922	2800	31	48	251	Johnson County
1922	2800	31	48	367	Parker County
1922	2800	31	48	439	Tarrant County
1950					Danville, VA MSA
1950		51		143	Pittsylvania County
1950		51		590	Danville city
1960					Davenport-Moline-Rock Island, IA-IL MSA
1960		17		073	Henry County, IL
1960		17		161	Rock Island County, IL
1960		19		163	Scott County, IA
2000					Dayton-Springfield, OH MSA
2000		39		023	Clark County
2000		39		057	Greene County
2000		39		109	Miami County
2000		39		113	Montgomery County
2020					Daytona Beach, FL MSA
2020		12		035	Flagler County
2020		12		127	Volusia County
2030					Decatur, AL MSA
2030		01		079	Lawrence County
2030		01		103	Morgan County
2040					Decatur, IL MSA
2040		17		115	Macon County
2082		34			Denver-Boulder-Greeley, CO CMSA
2082	1125	34			Boulder-Longmont, CO PMSA
2082	1125	34	08	013	Boulder County
2082	2080	34			Denver, CO PMSA
2082	2080	34	08	001	Adams County
2082	2080	34	08	005	Arapahoe County
2082	2080	34	08	031	Denver County
2082	2080	34	08	035	Douglas County
2082	2080	34	08	059	Jefferson County
2082	3060	34			Greeley, CO PMSA
2082	3060	34	08	123	Weld County
2120					Des Moines, IA MSA
2120		19		049	Dallas County
2120		19		153	Polk County
2120		19		181	Warren County
2162		35			Detroit-Ann Arbor-Flint, MI CMSA
2162	0440	35			Ann Arbor, MI PMSA
2162	0440	35	26	091	Lenawee County
2162	0440	35	26	093	Livingston County
2162	0440	35	26	161	Washtenaw County
2162	2160	35			Detroit, MI PMSA
2162	2160	35	26	087	Lapeer County
2162	2160	35	26	099	Macomb County
2162	2160	35	26	115	Monroe County
2162	2160	35	26	125	Oakland County
2162	2160	35	26	147	St. Clair County
2162	2160	35	26	163	Wayne County
2162	2640	35			Flint, MI PMSA
2162	2640	35	26	049	Genesee County
2180					Dothan, AL MSA
2180		01		045	Dale County

2180	01 069	Houston County
2190		Dover, DE MSA
2190	10 001	Kent County
2200		Dubuque, IA MSA
2200	19 061	Dubuque County
2240		Duluth-Superior, MN-WI MSA
2240	27 137	St. Louis County, MN
2240	55 031	Douglas County, WI
2290		Eau Claire, WI MSA
2290	55 017	Chippewa County
2290	55 035	Eau Claire County
2320		El Paso, TX MSA
2320	48 141	El Paso County
2330		Elkhart-Goshen, IN MSA
2330	18 039	Elkhart County
2335		Elmira, NY MSA
2335	36 015	Chemung County
2340		Enid, OK MSA
2340	40 047	Garfield County
2360		Erie, PA MSA
2360	42 049	Erie County
2400		Eugene-Springfield, OR MSA
2400	41 039	Lane County
2440		Evansville-Henderson, IN-KY MSA
2440	18 129	Posey County, IN
2440	18 163	Vanderburgh County, IN
2440	18 173	Warrick County, IN
2440	21 101	Henderson County, KY
2520		Fargo-Moorhead, ND-MN MSA
2520	27 027	Clay County, MN
2520	38 017	Cass County, ND
2560		Fayetteville, NC MSA
2560	37 051	Cumberland County
2580		Fayetteville-Springdale-Rogers, AR MSA
2580	05 007	Benton County
2580	05 143	Washington County
2650		Florence, AL MSA
2650	01 033	Colbert County
2650	01 077	Lauderdale County
2655		Florence, SC MSA
2655	45 041	Florence County
2670		Fort Collins-Loveland, CO MSA
2670	08 069	Larimer County
2700		Fort Myers-Cape Coral, FL MSA
2700	12 071	Lee County
2710		Fort Pierce-Port St. Lucie, FL MSA
2710	12 085	Martin County
2710	12 111	St. Lucie County
2720		Fort Smith, AR-OK MSA

2720	05 033	Crawford County, AR
2720	05 131	Sebastian County, AR
2720	40 135	Sequoyah County, OK
2750		Fort Walton Beach, FL MSA
2750	12 091	Okaloosa County
2760		Fort Wayne, IN MSA
2760	18 001	Adams County
2760	18 003	Allen County
2760	18 033	DeKalb County
2760	18 069	Huntington County
2760	18 179	Wells County
2760	18 183	Whitley County
2840		Fresno, CA MSA
2840	06 019	Fresno County
2840	06 039	Madera County
2880		Gadsden, AL MSA
2880	01 055	Etowah County
2900		Gainesville, FL MSA
2900	12 001	Alachua County
2975		Glens Falls, NY MSA
2975	36 113	Warren County
2975	36 115	Washington County
2980		Goldsboro, NC MSA
2980	37 191	Wayne County
2985		Grand Forks, ND-MN MSA
2985	27 119	Polk County, MN
2985	38 035	Grand Forks County, ND
3000		Grand Rapids-Muskegon-Holland, MI MSA
3000	26 005	Allegan County
3000	26 081	Kent County
3000	26 121	Muskegon County
3000	26 139	Ottawa County
3040		Great Falls, MT MSA
3040	30 013	Cascade County
3080		Green Bay, WI MSA
3080	55 009	Brown County
3120		Greensboro--Winston-Salem--High Point, NC MSA
3120	37 001	Alamance County
3120	37 057	Davidson County
3120	37 059	Davie County
3120	37 067	Forsyth County
3120	37 081	Guilford County
3120	37 151	Randolph County
3120	37 169	Stokes County
3120	37 197	Yadkin County
3150		Greenville, NC MSA
3150	37 147	Pitt County
3160		Greenville-Spartanburg-Anderson, SC MSA
3160	45 007	Anderson County
3160	45 021	Cherokee County
3160	45 045	Greenville County
3160	45 077	Pickens County
3160	45 083	Spartanburg County
3240		Harrisburg-Lebanon-Carlisle, PA MSA

3240	42 041	Cumberland County
3240	42 043	Dauphin County
3240	42 075	Lebanon County
3240	42 099	Perry County
3280		Hartford, CT MSA
3280	09 003	Hartford County (pt.)
3280	09 003 02060	Avon town
3280	09 003 04300	Berlin town
3280	09 003 05910	Bloomfield town
3280	09 003 08420	Bristol city
3280	09 003 10100	Burlington town
3280	09 003 12270	Canton town
3280	09 003 22070	East Granby town
3280	09 003 22630	East Hartford town
3280	09 003 24800	East Windsor town
3280	09 003 25990	Enfield town
3280	09 003 27600	Farmington town
3280	09 003 31240	Glastonbury town
3280	09 003 32640	Granby town
3280	09 003 37000	Hartford city
3280	09 003 44700	Manchester town
3280	09 003 45820	Marlborough town
3280	09 003 50370	New Britain city
3280	09 003 52140	Newington town
3280	09 003 60120	Plainville town
3280	09 003 65370	Rocky Hill town
3280	09 003 68940	Simsbury town
3280	09 003 70550	Southington town
3280	09 003 71390	South Windsor town
3280	09 003 74540	Suffield town
3280	09 003 82590	West Hartford town
3280	09 003 84900	Wethersfield town
3280	09 003 87000	Windsor town
3280	09 003 87070	Windsor Locks town
3280	09 005	Litchfield County (pt.)
3280	09 005 02760	Barkhamsted town
3280	09 005 37280	Harwinton town
3280	09 005 51350	New Hartford town
3280	09 005 60750	Plymouth town
3280	09 005 86440	Winchester town
3280	09 007	Middlesex County (pt.)
3280	09 007 18080	Cromwell town
3280	09 007 20810	Durham town
3280	09 007 22280	East Haddam town
3280	09 007 22490	East Hampton town
3280	09 007 35230	Haddam town
3280	09 007 47080	Middlefield town
3280	09 007 47290	Middletown city
3280	09 007 61800	Portland town
3280	09 011	New London County (pt.)
3280	09 011 15910	Colchester town
3280	09 011 42390	Lebanon town
3280	09 013	Tolland County (pt.)
3280	09 013 01080	Andover town
3280	09 013 06260	Bolton town
3280	09 013 16400	Columbia town
3280	09 013 17800	Coventry town
3280	09 013 25360	Ellington town
3280	09 013 37910	Hebron town
3280	09 013 44910	Mansfield town
3280	09 013 69220	Somers town
3280	09 013 72090	Stafford town
3280	09 013 76290	Tolland town
3280	09 013 78250	Vernon town
3280	09 013 85950	Willington town
3280	09 015	Windham County (pt.)
3280	09 015 01430	Ashford town
3280	09 015 13810	Chaplin town
3280	09 015 86790	Windham town

3290		Hickory-Morganton, NC MSA
3290	37 003	Alexander County
3290	37 023	Burke County
3290	37 027	Caldwell County
3290	37 035	Catawba County
3320		Honolulu, HI MSA
3320	15 003	Honolulu County
3350		Houma, LA MSA
3350	22 057	Lafourche Parish
3350	22 109	Terrebonne Parish
3362	42	Houston-Galveston-Brazoria, TX CMSA
3362	1145 42	Brazoria, TX PMSA
3362	1145 42 48 039	Brazoria County
3362	2920 42	Galveston-Texas City, TX PMSA
3362	2920 42 48 167	Galveston County
3362	3360 42	Houston, TX PMSA
3362	3360 42 48 071	Chambers County
3362	3360 42 48 157	Fort Bend County
3362	3360 42 48 201	Harris County
3362	3360 42 48 291	Liberty County
3362	3360 42 48 339	Montgomery County
3362	3360 42 48 473	Waller County
3400		Huntington-Ashland, WV-KY-OH MSA
3400	21 019	Boyd County, KY
3400	21 043	Carter County, KY
3400	21 089	Greenup County, KY
3400	39 087	Lawrence County, OH
3400	54 011	Cabell County, WV
3400	54 099	Wayne County, WV
3440		Huntsville, AL MSA
3440	01 083	Limestone County
3440	01 089	Madison County
3480		Indianapolis, IN MSA
3480	18 011	Boone County
3480	18 057	Hamilton County
3480	18 059	Hancock County
3480	18 063	Hendricks County
3480	18 081	Johnson County
3480	18 095	Madison County
3480	18 097	Marion County
3480	18 109	Morgan County
3480	18 145	Shelby County
3500		Iowa City, IA MSA
3500	19 103	Johnson County
3520		Jackson, MI MSA
3520	26 075	Jackson County
3560		Jackson, MS MSA
3560	28 049	Hinds County
3560	28 089	Madison County
3560	28 121	Rankin County
3580		Jackson, TN MSA
3580	47 113	Madison County
3600		Jacksonville, FL MSA
3600	12 019	Clay County
3600	12 031	Duval County
3600	12 089	Nassau County
3600	12 109	St. Johns County
3605		Jacksonville, NC MSA

3605	37 133	Onslow County
3610		Jamestown, NY MSA
3610	36 013	Chautauqua County
3620		Janesville-Beloit, WI MSA
3620	55 105	Rock County
3660		Johnson City-Kingsport-Bristol, TN-VA MSA
3660	47 019	Carter County, TN
3660	47 073	Hawkins County, TN
3660	47 163	Sullivan County, TN
3660	47 171	Unicoi County, TN
3660	47 179	Washington County, TN
3660	51 169	Scott County, VA
3660	51 191	Washington County, VA
3660	51 520	Bristol city, VA
3680		Johnstown, PA MSA
3680	42 021	Cambria County
3680	42 111	Somerset County
3710		Joplin, MO MSA
3710	29 097	Jasper County
3710	29 145	Newton County
3720		Kalamazoo-Battle Creek, MI MSA
3720	26 025	Calhoun County
3720	26 077	Kalamazoo County
3720	26 159	Van Buren County
3760		Kansas City, MO-KS MSA
3760	20 091	Johnson County, KS
3760	20 103	Leavenworth County, KS
3760	20 121	Miami County, KS
3760	20 209	Wyandotte County, KS
3760	29 037	Cass County, MO
3760	29 047	Clay County, MO
3760	29 049	Clinton County, MO
3760	29 095	Jackson County, MO
3760	29 107	Lafayette County, MO
3760	29 165	Platte County, MO
3760	29 177	Ray County, MO
3810		Killeen-Temple, TX MSA
3810	48 027	Bell County
3810	48 099	Coryell County
3840		Knoxville, TN MSA
3840	47 001	Anderson County
3840	47 009	Blount County
3840	47 093	Knox County
3840	47 105	Loudon County
3840	47 155	Sevier County
3840	47 173	Union County
3850		Kokomo, IN MSA
3850	18 067	Howard County
3850	18 159	Tipton County
3870		La Crosse, WI-MN MSA
3870	27 055	Houston County, MN
3870	55 063	La Crosse County, WI
3880		Lafayette, LA MSA
3880	22 001	Acadia Parish
3880	22 055	Lafayette Parish
3880	22 097	St. Landry Parish
3880	22 099	St. Martin Parish

3920		Lafayette, IN MSA
3920	18 023	Clinton County
3920	18 157	Tippecanoe County
3960		Lake Charles, LA MSA
3960	22 019	Calcasieu Parish
3980		Lakeland-Winter Haven, FL MSA
3980	12 105	Polk County
4000		Lancaster, PA MSA
4000	42 071	Lancaster County
4040		Lansing-East Lansing, MI MSA
4040	26 037	Clinton County
4040	26 045	Eaton County
4040	26 065	Ingham County
4080		Laredo, TX MSA
4080	48 479	Webb County
4100		Las Cruces, NM MSA
4100	35 013	Dona Ana County
4120		Las Vegas, NV-AZ MSA
4120	04 015	Mohave County, AZ
4120	32 003	Clark County, NV
4120	32 023	Nye County, NV
4150		Lawrence, KS MSA
4150	20 045	Douglas County
4200		Lawton, OK MSA
4200	40 031	Comanche County
4240		Lewiston-Auburn, ME MSA
4240	23 001	Androscoggin County (pt.)
4240	23 001 02060	Auburn city
4240	23 001 29255	Greene town
4240	23 001 38740	Lewiston city
4240	23 001 40035	Lisbon town
4240	23 001 44585	Mechanic Falls town
4240	23 001 60020	Poland town
4240	23 001 64570	Sabattus town
4240	23 001 77800	Turner town
4240	23 001 79585	Wales town
4280		Lexington, KY MSA
4280	21 017	Bourbon County
4280	21 049	Clark County
4280	21 067	Fayette County
4280	21 113	Jessamine County
4280	21 151	Madison County
4280	21 209	Scott County
4280	21 239	Woodford County
4320		Lima, OH MSA
4320	39 003	Allen County
4320	39 011	Auglaize County
4360		Lincoln, NE MSA
4360	31 109	Lancaster County
4400		Little Rock-North Little Rock, AR MSA
4400	05 045	Faulkner County
4400	05 085	Lonoke County
4400	05 119	Pulaski County
4400	05 125	Saline County

4420		Longview-Marshall, TX MSA
4420	48 183	Gregg County
4420	48 203	Harrison County
4420	48 459	Upshur County
4472	49	Los Angeles-Riverside-Orange County, CA CMSA
4472	4480 49	Los Angeles-Long Beach, CA PMSA
4472	4480 49 06 037	Los Angeles County
4472	5945 49	Orange County, CA PMSA
4472	5945 49 06 059	Orange County
4472	6780 49	Riverside-San Bernardino, CA PMSA
4472	6780 49 06 065	Riverside County
4472	6780 49 06 071	San Bernardino County
4472	8735 49	Ventura, CA PMSA
4472	8735 49 06 111	Ventura County
4520		Louisville, KY-IN MSA
4520	18 019	Clark County, IN
4520	18 043	Floyd County, IN
4520	18 061	Harrison County, IN
4520	18 143	Scott County, IN
4520	21 029	Bullitt County, KY
4520	21 111	Jefferson County, KY
4520	21 185	Oldham County, KY
4600		Lubbock, TX MSA
4600	48 303	Lubbock County
4640		Lynchburg, VA MSA
4640	51 009	Amherst County
4640	51 019	Bedford County
4640	51 031	Campbell County
4640	51 515	Bedford city
4640	51 680	Lynchburg city
4680		Macon, GA MSA
4680	13 021	Bibb County
4680	13 153	Houston County
4680	13 169	Jones County
4680	13 225	Peach County
4680	13 289	Twiggs County
4720		Madison, WI MSA
4720	55 025	Dane County
4800		Mansfield, OH MSA
4800	39 033	Crawford County
4800	39 139	Richland County
4840		Mayaguez, PR MSA
4840	72 011	Anasco Municipio
4840	72 023	Cabo Rojo Municipio
4840	72 067	Hormigueros Municipio
4840	72 097	Mayaguez Municipio
4840	72 121	Sabana Grande Municipio
4840	72 125	San German Municipio
4880		McAllen-Edinburg-Mission, TX MSA
4880	48 215	Hidalgo County
4890		Medford-Ashland, OR MSA
4890	41 029	Jackson County
4900		Melbourne-Titusville-Palm Bay, FL MSA
4900	12 009	Brevard County
4920		Memphis, TN-AR-MS MSA
4920	05 035	Crittenden County, AR
4920	28 033	DeSoto County, MS
4920	47 047	Fayette County, TN

4920	47 157	Shelby County, TN
4920	47 167	Tipton County, TN
4940		Merced, CA MSA
4940	06 047	Merced County
4992	56	Miami-Fort Lauderdale, FL CMSA
4992	2680 56	Fort Lauderdale, FL PMSA
4992	2680 56 12 011	Broward County
4992	5000 56	Miami, FL PMSA
4992	5000 56 12 025	Dade County
5082	63	Milwaukee-Racine, WI CMSA
5082	5080 63	Milwaukee-Waukesha, WI PMSA
5082	5080 63 55 079	Milwaukee County
5082	5080 63 55 089	Ozaukee County
5082	5080 63 55 131	Washington County
5082	5080 63 55 133	Waukesha County
5082	6600 63	Racine, WI PMSA
5082	6600 63 55 101	Racine County
5120		Minneapolis-St. Paul, MN-WI MSA
5120	27 003	Anoka County, MN
5120	27 019	Carver County, MN
5120	27 025	Chisago County, MN
5120	27 037	Dakota County, MN
5120	27 053	Hennepin County, MN
5120	27 059	Isanti County, MN
5120	27 123	Ramsey County, MN
5120	27 139	Scott County, MN
5120	27 141	Sherburne County, MN
5120	27 163	Washington County, MN
5120	27 171	Wright County, MN
5120	55 093	Pierce County, WI
5120	55 109	St. Croix County, WI
5160		Mobile, AL MSA
5160	01 003	Baldwin County
5160	01 097	Mobile County
5170		Modesto, CA MSA
5170	06 099	Stanislaus County
5200		Monroe, LA MSA
5200	22 073	Ouachita Parish
5240		Montgomery, AL MSA
5240	01 001	Autauga County
5240	01 051	Elmore County
5240	01 101	Montgomery County
5280		Muncie, IN MSA
5280	18 035	Delaware County
5330		Myrtle Beach, SC MSA
5330	45 051	Horry County
5345		Naples, FL MSA
5345	12 021	Collier County
5360		Nashville, TN MSA
5360	47 021	Cheatham County
5360	47 037	Davidson County
5360	47 043	Dickson County
5360	47 147	Robertson County
5360	47 149	Rutherford County
5360	47 165	Sumner County
5360	47 187	Williamson County
5360	47 189	Wilson County

5520			New London-Norwich, CT-RI MSA
5520	09	007	Middlesex County, CT (pt.)
5520	09	007 57320	Old Saybrook town
5520	09	011	New London County, CT (pt.)
5520	09	011 06820	Bozrah town
5520	09	011 23400	East Lyme town
5520	09	011 29910	Franklin town
5520	09	011 33900	Griswold town
5520	09	011 34250	Groton town
5520	09	011 42600	Ledyard town
5520	09	011 43230	Lisbon town
5520	09	011 48900	Montville town
5520	09	011 52280	New London city
5520	09	011 55500	North Stonington town
5520	09	011 56200	Norwich city
5520	09	011 57040	Old Lyme town
5520	09	011 62150	Preston town
5520	09	011 66210	Salem town
5520	09	011 71670	Sprague town
5520	09	011 73770	Stonington town
5520	09	011 80280	Waterford town
5520	09	015	Windham County, CT (pt.)
5520	09	015 12130	Canterbury town
5520	09	015 59980	Plainfield town
5520	44	009	Washington County, RI (pt.)
5520	44	009 35380	Hopkinton town
5520	44	009 77000	Westerly town
5560			New Orleans, LA MSA
5560	22	051	Jefferson Parish
5560	22	071	Orleans Parish
5560	22	075	Plaquemines Parish
5560	22	087	St. Bernard Parish
5560	22	089	St. Charles Parish
5560	22	093	St. James Parish
5560	22	095	St. John the Baptist Parish
5560	22	103	St. Tammany Parish
5602	70		New York-Northern New Jersey-Long Island, NY-NJ-CT-PA
5602	70		CMSA
5602	0875	70	Bergen-Passaic, NJ PMSA
5602	0875	70 34 003	Bergen County
5602	0875	70 34 031	Passaic County
5602	1160	70	Bridgeport, CT PMSA
5602	1160	70 09 001	Fairfield County (pt.)
5602	1160	70 09 001 08000	Bridgeport city
5602	1160	70 09 001 23890	Easton town
5602	1160	70 09 001 26620	Fairfield town
5602	1160	70 09 001 48620	Monroe town
5602	1160	70 09 001 68100	Shelton city
5602	1160	70 09 001 74190	Stratford town
5602	1160	70 09 001 77200	Trumbull town
5602	1160	70 09 009	New Haven County (pt.)
5602	1160	70 09 009 01150	Ansonia city
5602	1160	70 09 009 03250	Beacon Falls town
5602	1160	70 09 009 19480	Derby city
5602	1160	70 09 009 47500	Milford city
5602	1160	70 09 009 58300	Oxford town
5602	1160	70 09 009 67610	Seymour town
5602	1930	70	Danbury, CT PMSA
5602	1930	70 09 001	Fairfield County (pt.)
5602	1930	70 09 001 04720	Bethel town
5602	1930	70 09 001 08980	Brookfield town
5602	1930	70 09 001 18430	Danbury city
5602	1930	70 09 001 50860	New Fairfield town
5602	1930	70 09 001 52980	Newtown town
5602	1930	70 09 001 63480	Redding town
5602	1930	70 09 001 63970	Ridgefield town
5602	1930	70 09 001 68310	Sherman town
5602	1930	70 09 005	Litchfield County (pt.)
5602	1930	70 09 005 08210	Bridgewater town

5602	1930	70	09	005	52630	New Milford town
5602	1930	70	09	005	65930	Roxbury town
5602	1930	70	09	005	79720	Washington town
5602	2281	70				Dutchess County, NY PMSA
5602	2281	70	36	027		Dutchess County
5602	3640	70				Jersey City, NJ PMSA
5602	3640	70	34	017		Hudson County
5602	5015	70				Middlesex-Somerset-Hunterdon, NJ PMSA
5602	5015	70	34	019		Hunterdon County
5602	5015	70	34	023		Middlesex County
5602	5015	70	34	035		Somerset County
5602	5190	70				Monmouth-Ocean, NJ PMSA
5602	5190	70	34	025		Monmouth County
5602	5190	70	34	029		Ocean County
5602	5380	70				Nassau-Suffolk, NY PMSA
5602	5380	70	36	059		Nassau County
5602	5380	70	36	103		Suffolk County
5602	5480	70				New Haven-Meriden, CT PMSA
5602	5480	70	09	007		Middlesex County (pt.)
5602	5480	70	09	007	15350	Clinton town
5602	5480	70	09	007	40710	Killingworth town
5602	5480	70	09	009		New Haven County (pt.)
5602	5480	70	09	009	04580	Bethany town
5602	5480	70	09	009	07310	Branford town
5602	5480	70	09	009	14160	Cheshire town
5602	5480	70	09	009	22910	East Haven town
5602	5480	70	09	009	34950	Guilford town
5602	5480	70	09	009	35650	Hamden town
5602	5480	70	09	009	44560	Madison town
5602	5480	70	09	009	46450	Meriden city
5602	5480	70	09	009	52000	New Haven city
5602	5480	70	09	009	53890	North Branford town
5602	5480	70	09	009	54870	North Haven town
5602	5480	70	09	009	57600	Orange town
5602	5480	70	09	009	78740	Wallingford town
5602	5480	70	09	009	82800	West Haven city
5602	5480	70	09	009	87700	Woodbridge town
5602	5600	70				New York, NY PMSA
5602	5600	70	36	005		Bronx County
5602	5600	70	36	047		Kings County
5602	5600	70	36	061		New York County
5602	5600	70	36	079		Putnam County
5602	5600	70	36	081		Queens County
5602	5600	70	36	085		Richmond County
5602	5600	70	36	087		Rockland County
5602	5600	70	36	119		Westchester County
5602	5640	70				Newark, NJ PMSA
5602	5640	70	34	013		Essex County
5602	5640	70	34	027		Morris County
5602	5640	70	34	037		Sussex County
5602	5640	70	34	039		Union County
5602	5640	70	34	041		Warren County
5602	5660	70				Newburgh, NY-PA PMSA
5602	5660	70	36	071		Orange County, NY
5602	5660	70	42	103		Pike County, PA
5602	8040	70				Stamford-Norwalk, CT PMSA
5602	8040	70	09	001		Fairfield County (pt.)
5602	8040	70	09	001	18850	Darien town
5602	8040	70	09	001	33620	Greenwich town
5602	8040	70	09	001	50580	New Canaan town
5602	8040	70	09	001	55990	Norwalk city
5602	8040	70	09	001	73000	Stamford city
5602	8040	70	09	001	83430	Weston town
5602	8040	70	09	001	83500	Westport town
5602	8040	70	09	001	86370	Wilton town
5602	8480	70				Trenton, NJ PMSA
5602	8480	70	34	021		Mercer County
5602	8880	70				Waterbury, CT PMSA
5602	8880	70	09	005		Litchfield County (pt.)
5602	8880	70	09	005	04930	Bethlehem town
5602	8880	70	09	005	75730	Thomaston town

5602	8880	70	09	005	80490	Watertown town
5602	8880	70	09	005	87910	Woodbury town
5602	8880	70	09	009		New Haven County (pt.)
5602	8880	70	09	009	46940	Middlebury town
5602	8880	70	09	009	49880	Naugatuck borough
5602	8880	70	09	009	62290	Prospect town
5602	8880	70	09	009	69640	Southbury town
5602	8880	70	09	009	80000	Waterbury city
5602	8880	70	09	009	87560	Wolcott town
5720						Norfolk-Virginia Beach-Newport News, VA-NC MSA
5720		37	053			Currituck County, NC
5720		51	073			Gloucester County, VA
5720		51	093			Isle of Wight County, VA
5720		51	095			James City County, VA
5720		51	115			Mathews County, VA
5720		51	199			York County, VA
5720		51	550			Chesapeake city, VA
5720		51	650			Hampton city, VA
5720		51	700			Newport News city, VA
5720		51	710			Norfolk city, VA
5720		51	735			Poquoson city, VA
5720		51	740			Portsmouth city, VA
5720		51	800			Suffolk city, VA
5720		51	810			Virginia Beach city, VA
5720		51	830			Williamsburg city, VA
5790						Ocala, FL MSA
5790		12	083			Marion County
5800						Odessa-Midland, TX MSA
5800		48	135			Ector County
5800		48	329			Midland County
5880						Oklahoma City, OK MSA
5880		40	017			Canadian County
5880		40	027			Cleveland County
5880		40	083			Logan County
5880		40	087			McClain County
5880		40	109			Oklahoma County
5880		40	125			Pottawatomie County
5920						Omaha, NE-IA MSA
5920		19	155			Pottawattamie County, IA
5920		31	025			Cass County, NE
5920		31	055			Douglas County, NE
5920		31	153			Sarpy County, NE
5920		31	177			Washington County, NE
5960						Orlando, FL MSA
5960		12	069			Lake County
5960		12	095			Orange County
5960		12	097			Osceola County
5960		12	117			Seminole County
5990						Owensboro, KY MSA
5990		21	059			Daviess County
6015						Panama City, FL MSA
6015		12	005			Bay County
6020						Parkersburg-Marietta, WV-OH MSA
6020		39	167			Washington County, OH
6020		54	107			Wood County, WV
6080						Pensacola, FL MSA
6080		12	033			Escambia County
6080		12	113			Santa Rosa County
6120						Peoria-Pekin, IL MSA

6120	17 143	Peoria County
6120	17 179	Tazewell County
6120	17 203	Woodford County
6162	77	Philadelphia-Wilmington-Atlantic City, PA-NJ-DE-MD CMSA
6162	0560 77	Atlantic-Cape May, NJ PMSA
6162	0560 77 34 001	Atlantic County
6162	0560 77 34 009	Cape May County
6162	6160 77	Philadelphia, PA-NJ PMSA
6162	6160 77 34 005	Burlington County, NJ
6162	6160 77 34 007	Camden County, NJ
6162	6160 77 34 015	Gloucester County, NJ
6162	6160 77 34 033	Salem County, NJ
6162	6160 77 42 017	Bucks County, PA
6162	6160 77 42 029	Chester County, PA
6162	6160 77 42 045	Delaware County, PA
6162	6160 77 42 091	Montgomery County, PA
6162	6160 77 42 101	Philadelphia County, PA
6162	8760 77	Vineland-Millville-Bridgeton, NJ PMSA
6162	8760 77 34 011	Cumberland County
6162	9160 77	Wilmington-Newark, DE-MD PMSA
6162	9160 77 10 003	New Castle County, DE
6162	9160 77 24 015	Cecil County, MD
6200		Phoenix-Mesa, AZ MSA
6200	04 013	Maricopa County
6200	04 021	Pinal County
6240		Pine Bluff, AR MSA
6240	05 069	Jefferson County
6280		Pittsburgh, PA MSA
6280	42 003	Allegheny County
6280	42 007	Beaver County
6280	42 019	Butler County
6280	42 051	Fayette County
6280	42 125	Washington County
6280	42 129	Westmoreland County
6320		Pittsfield, MA MSA
6320	25 003	Berkshire County (pt.)
6320	25 003 00555	Adams town
6320	25 003 13345	Cheshire town
6320	25 003 16180	Dalton town
6320	25 003 30315	Hinsdale town
6320	25 003 34340	Lanesborough town
6320	25 003 34655	Lee town
6320	25 003 34970	Lenox town
6320	25 003 53960	Pittsfield city
6320	25 003 56795	Richmond town
6320	25 003 67595	Stockbridge town
6360		Ponce, PR MSA
6360	72 059	Guayanilla Municipio
6360	72 075	Juana Diaz Municipio
6360	72 111	Penuelas Municipio
6360	72 113	Ponce Municipio
6360	72 149	Villalba Municipio
6360	72 153	Yauco Municipio
6400		Portland, ME MSA
6400	23 005	Cumberland County (pt.)
6400	23 005 10180	Cape Elizabeth town
6400	23 005 11125	Casco town
6400	23 005 15430	Cumberland town
6400	23 005 24495	Falmouth town
6400	23 005 26525	Freeport town
6400	23 005 28240	Gorham town
6400	23 005 28870	Gray town
6400	23 005 53860	North Yarmouth town

6400	23	005	60545	Portland city
6400	23	005	61945	Raymond town
6400	23	005	66145	Scarborough town
6400	23	005	71990	South Portland city
6400	23	005	73670	Standish town
6400	23	005	82105	Westbrook city
6400	23	005	86025	Windham town
6400	23	005	87845	Yarmouth town
6400	23	031		York County (pt.)
6400	23	031	09410	Buxton town
6400	23	031	33665	Hollis town
6400	23	031	39405	Limington town
6400	23	031	55085	Old Orchard Beach town
6442	79			Portland-Salem, OR-WA CMSA
6442	6440	79		Portland-Vancouver, OR-WA PMSA
6442	6440	79	41 005	Clackamas County, OR
6442	6440	79	41 009	Columbia County, OR
6442	6440	79	41 051	Multnomah County, OR
6442	6440	79	41 067	Washington County, OR
6442	6440	79	41 071	Yamhill County, OR
6442	6440	79	53 011	Clark County, WA
6442	7080	79		Salem, OR PMSA
6442	7080	79	41 047	Marion County
6442	7080	79	41 053	Polk County
6480				Providence-Fall River-Warwick, RI-MA MSA
6480	25	005		Bristol County, MA (pt.)
6480	25	005	02690	Attleboro city
6480	25	005	23000	Fall River city
6480	25	005	46575	North Attleborough town
6480	25	005	56375	Rehoboth town
6480	25	005	60645	Seekonk town
6480	25	005	62430	Somerset town
6480	25	005	68750	Swansea town
6480	25	005	77570	Westport town
6480	44	001		Bristol County, RI
6480	44	001	05140	Barrington town
6480	44	001	09280	Bristol town
6480	44	001	73760	Warren town
6480	44	003		Kent County, RI
6480	44	003	18640	Coventry town
6480	44	003	22240	East Greenwich town
6480	44	003	74300	Warwick city
6480	44	003	77720	West Greenwich town
6480	44	003	78440	West Warwick town
6480	44	005		Newport County, RI (pt.)
6480	44	005	36820	Jamestown town
6480	44	005	42400	Little Compton town
6480	44	005	70880	Tiverton town
6480	44	007		Providence County, RI
6480	44	007	11800	Burrillville town
6480	44	007	14140	Central Falls city
6480	44	007	19180	Cranston city
6480	44	007	20080	Cumberland town
6480	44	007	22960	East Providence city
6480	44	007	27460	Foster town
6480	44	007	30340	Glocester town
6480	44	007	37720	Johnston town
6480	44	007	41500	Lincoln town
6480	44	007	51760	North Providence town
6480	44	007	52480	North Smithfield town
6480	44	007	54640	Pawtucket city
6480	44	007	59000	Providence city
6480	44	007	64220	Scituate town
6480	44	007	66200	Smithfield town
6480	44	007	80780	Woonsocket city
6480	44	009		Washington County, RI (pt.)
6480	44	009	14500	Charlestown town
6480	44	009	25300	Exeter town
6480	44	009	48340	Narragansett town

6480	44 009 51580	North Kingstown town
6480	44 009 61160	Richmond town
6480	44 009 67460	South Kingstown town
6520		Provo-Orem, UT MSA
6520	49 049	Utah County
6560		Pueblo, CO MSA
6560	08 101	Pueblo County
6580		Punta Gorda, FL MSA
6580	12 015	Charlotte County
6640		Raleigh-Durham-Chapel Hill, NC MSA
6640	37 037	Chatham County
6640	37 063	Durham County
6640	37 069	Franklin County
6640	37 101	Johnston County
6640	37 135	Orange County
6640	37 183	Wake County
6660		Rapid City, SD MSA
6660	46 103	Pennington County
6680		Reading, PA MSA
6680	42 011	Berks County
6690		Redding, CA MSA
6690	06 089	Shasta County
6720		Reno, NV MSA
6720	32 031	Washoe County
6740		Richland-Kennewick-Pasco, WA MSA
6740	53 005	Benton County
6740	53 021	Franklin County
6760		Richmond-Petersburg, VA MSA
6760	51 036	Charles City County
6760	51 041	Chesterfield County
6760	51 053	Dinwiddie County
6760	51 075	Goochland County
6760	51 085	Hanover County
6760	51 087	Henrico County
6760	51 127	New Kent County
6760	51 145	Powhatan County
6760	51 149	Prince George County
6760	51 570	Colonial Heights city
6760	51 670	Hopewell city
6760	51 730	Petersburg city
6760	51 760	Richmond city
6800		Roanoke, VA MSA
6800	51 023	Botetourt County
6800	51 161	Roanoke County
6800	51 770	Roanoke city
6800	51 775	Salem city
6820		Rochester, MN MSA
6820	27 109	Olmsted County
6840		Rochester, NY MSA
6840	36 037	Genesee County
6840	36 051	Livingston County
6840	36 055	Monroe County
6840	36 069	Ontario County
6840	36 073	Orleans County
6840	36 117	Wayne County
6880		Rockford, IL MSA

6880	17 007	Boone County
6880	17 141	Ogle County
6880	17 201	Winnebago County
6895		Rocky Mount, NC MSA
6895	37 065	Edgecombe County
6895	37 127	Nash County
6922	82	Sacramento-Yolo, CA CMSA
6922	6920 82	Sacramento, CA PMSA
6922	6920 82 06 017	El Dorado County
6922	6920 82 06 061	Placer County
6922	6920 82 06 067	Sacramento County
6922	9270 82	Yolo, CA PMSA
6922	9270 82 06 113	Yolo County
6960		Saginaw-Bay City-Midland, MI MSA
6960	26 017	Bay County
6960	26 111	Midland County
6960	26 145	Saginaw County
6980		St. Cloud, MN MSA
6980	27 009	Benton County
6980	27 145	Stearns County
7000		St. Joseph, MO MSA
7000	29 003	Andrew County
7000	29 021	Buchanan County
7040		St. Louis, MO-IL MSA
7040	17 027	Clinton County, IL
7040	17 083	Jersey County, IL
7040	17 119	Madison County, IL
7040	17 133	Monroe County, IL
7040	17 163	St. Clair County, IL
7040	29 055	Crawford County, MO (pt.)*
7040	29 071	Franklin County, MO
7040	29 099	Jefferson County, MO
7040	29 113	Lincoln County, MO
7040	29 183	St. Charles County, MO
7040	29 189	St. Louis County, MO
7040	29 219	Warren County, MO
7040	29 510	St. Louis city, MO
7120		Salinas, CA MSA
7120	06 053	Monterey County
7160		Salt Lake City-Ogden, UT MSA
7160	49 011	Davis County
7160	49 035	Salt Lake County
7160	49 057	Weber County
7200		San Angelo, TX MSA
7200	48 451	Tom Green County
7240		San Antonio, TX MSA
7240	48 029	Bexar County
7240	48 091	Comal County
7240	48 187	Guadalupe County
7240	48 493	Wilson County
7320		San Diego, CA MSA
7320	06 073	San Diego County
7362	84	San Francisco-Oakland-San Jose, CA CMSA
7362	5775 84	Oakland, CA PMSA
7362	5775 84 06 001	Alameda County
7362	5775 84 06 013	Contra Costa County
7362	7360 84	San Francisco, CA PMSA
7362	7360 84 06 041	Marin County

7362	7360	84	06	075	San Francisco County
7362	7360	84	06	081	San Mateo County
7362	7400	84			San Jose, CA PMSA
7362	7400	84	06	085	Santa Clara County
7362	7485	84			Santa Cruz-Watsonville, CA PMSA
7362	7485	84	06	087	Santa Cruz County
7362	7500	84			Santa Rosa, CA PMSA
7362	7500	84	06	097	Sonoma County
7362	8720	84			Vallejo-Fairfield-Napa, CA PMSA
7362	8720	84	06	055	Napa County
7362	8720	84	06	095	Solano County
7442		87			San Juan-Caguas-Arecibo, PR CMSA
7442	0470	87			Arecibo, PR PMSA
7442	0470	87	72	013	Arecibo Municipio
7442	0470	87	72	027	Camuy Municipio
7442	0470	87	72	065	Hatillo Municipio
7442	1310	87			Caguas, PR PMSA
7442	1310	87	72	025	Caguas Municipio
7442	1310	87	72	035	Cayey Municipio
7442	1310	87	72	041	Cidra Municipio
7442	1310	87	72	063	Gurabo Municipio
7442	1310	87	72	129	San Lorenzo Municipio
7442	7440	87			San Juan-Bayamon, PR PMSA
7442	7440	87	72	007	Aguas Buenas Municipio
7442	7440	87	72	017	Barceloneta Municipio
7442	7440	87	72	021	Bayamon Municipio
7442	7440	87	72	029	Canovanas Municipio
7442	7440	87	72	031	Carolina Municipio
7442	7440	87	72	033	Catano Municipio
7442	7440	87	72	037	Ceiba Municipio
7442	7440	87	72	045	Comerio Municipio
7442	7440	87	72	047	Corozal Municipio
7442	7440	87	72	051	Dorado Municipio
7442	7440	87	72	053	Fajardo Municipio
7442	7440	87	72	054	Florida Municipio
7442	7440	87	72	061	Guaynabo Municipio
7442	7440	87	72	069	Humacao Municipio
7442	7440	87	72	077	Juncos Municipio
7442	7440	87	72	085	Las Piedras Municipio
7442	7440	87	72	087	Loiza Municipio
7442	7440	87	72	089	Luquillo Municipio
7442	7440	87	72	091	Manati Municipio
7442	7440	87	72	101	Morovis Municipio
7442	7440	87	72	103	Naguabo Municipio
7442	7440	87	72	105	Naranjito Municipio
7442	7440	87	72	119	Rio Grande Municipio
7442	7440	87	72	127	San Juan Municipio
7442	7440	87	72	135	Toa Alta Municipio
7442	7440	87	72	137	Toa Baja Municipio
7442	7440	87	72	139	Trujillo Alto Municipio
7442	7440	87	72	143	Vega Alta Municipio
7442	7440	87	72	145	Vega Baja Municipio
7442	7440	87	72	151	Yabucoa Municipio
7460					San Luis Obispo-Atascadero-Paso Robles, CA MSA
7460		06	079		San Luis Obispo County
7480					Santa Barbara-Santa Maria-Lompoc, CA MSA
7480		06	083		Santa Barbara County
7490					Santa Fe, NM MSA
7490		35	028		Los Alamos County
7490		35	049		Santa Fe County
7510					Sarasota-Bradenton, FL MSA
7510		12	081		Manatee County
7510		12	115		Sarasota County
7520					Savannah, GA MSA

7520	13	029	Bryan County
7520	13	051	Chatham County
7520	13	103	Effingham County
7560			Scranton--Wilkes-Barre--Hazleton, PA MSA
7560	42	037	Columbia County
7560	42	069	Lackawanna County
7560	42	079	Luzerne County
7560	42	131	Wyoming County
7602	91		Seattle-Tacoma-Bremerton, WA CMSA
7602	1150	91	Bremerton, WA PMSA
7602	1150	91 53 035	Kitsap County
7602	5910	91	Olympia, WA PMSA
7602	5910	91 53 067	Thurston County
7602	7600	91	Seattle-Bellevue-Everett, WA PMSA
7602	7600	91 53 029	Island County
7602	7600	91 53 033	King County
7602	7600	91 53 061	Snohomish County
7602	8200	91	Tacoma, WA PMSA
7602	8200	91 53 053	Pierce County
7610			Sharon, PA MSA
7610	42	085	Mercer County
7620			Sheboygan, WI MSA
7620	55	117	Sheboygan County
7640			Sherman-Denison, TX MSA
7640	48	181	Grayson County
7680			Shreveport-Bossier City, LA MSA
7680	22	015	Bossier Parish
7680	22	017	Caddo Parish
7680	22	119	Webster Parish
7720			Sioux City, IA-NE MSA
7720	19	193	Woodbury County, IA
7720	31	043	Dakota County, NE
7760			Sioux Falls, SD MSA
7760	46	083	Lincoln County
7760	46	099	Minnehaha County
7800			South Bend, IN MSA
7800	18	141	St. Joseph County
7840			Spokane, WA MSA
7840	53	063	Spokane County
7880			Springfield, IL MSA
7880	17	129	Menard County
7880	17	167	Sangamon County
7920			Springfield, MO MSA
7920	29	043	Christian County
7920	29	077	Greene County
7920	29	225	Webster County
8000			Springfield, MA MSA
8000	25	011	Franklin County (pt.)
8000	25	011 68400	Sunderland town
8000	25	013	Hampden County (pt.)
8000	25	013 00800	Agawam town
8000	25	013 13660	Chicopee city
8000	25	013 19645	East Longmeadow town
8000	25	013 28075	Hampden town
8000	25	013 30840	Holyoke city
8000	25	013 36300	Longmeadow town
8000	25	013 37175	Ludlow town

8000	25 013 42145	Monson town
8000	25 013 42530	Montgomery town
8000	25 013 52105	Palmer town
8000	25 013 58650	Russell town
8000	25 013 65825	Southwick town
8000	25 013 67000	Springfield city
8000	25 013 76030	Westfield city
8000	25 013 77850	West Springfield town
8000	25 013 79740	Wilbraham town
8000	25 015	Hampshire County (pt.)
8000	25 015 01325	Amherst town
8000	25 015 04825	Belchertown town
8000	25 015 19330	Easthampton town
8000	25 015 26535	Granby town
8000	25 015 27690	Hadley town
8000	25 015 29265	Hatfield town
8000	25 015 31785	Huntington town
8000	25 015 46330	Northampton city
8000	25 015 62745	Southampton town
8000	25 015 64145	South Hadley town
8000	25 015 72880	Ware town
8000	25 015 79915	Williamsburg town
8050		State College, PA MSA
8050	42 027	Centre County
8080		Steubenville-Weirton, OH-WV MSA
8080	39 081	Jefferson County, OH
8080	54 009	Brooke County, WV
8080	54 029	Hancock County, WV
8120		Stockton-Lodi, CA MSA
8120	06 077	San Joaquin County
8140		Sumter, SC MSA
8140	45 085	Sumter County
8160		Syracuse, NY MSA
8160	36 011	Cayuga County
8160	36 053	Madison County
8160	36 067	Onondaga County
8160	36 075	Oswego County
8240		Tallahassee, FL MSA
8240	12 039	Gadsden County
8240	12 073	Leon County
8280		Tampa-St. Petersburg-Clearwater, FL MSA
8280	12 053	Hernando County
8280	12 057	Hillsborough County
8280	12 101	Pasco County
8280	12 103	Pinellas County
8320		Terre Haute, IN MSA
8320	18 021	Clay County
8320	18 165	Vermillion County
8320	18 167	Vigo County
8360		Texarkana, TX-Texarkana, AR MSA
8360	05 091	Miller County, AR
8360	48 037	Bowie County, TX
8400		Toledo, OH MSA
8400	39 051	Fulton County
8400	39 095	Lucas County
8400	39 173	Wood County
8440		Topeka, KS MSA
8440	20 177	Shawnee County

8520		Tucson, AZ MSA
8520	04 019	Pima County
8560		Tulsa, OK MSA
8560	40 037	Creek County
8560	40 113	Osage County
8560	40 131	Rogers County
8560	40 143	Tulsa County
8560	40 145	Wagoner County
8600		Tuscaloosa, AL MSA
8600	01 125	Tuscaloosa County
8640		Tyler, TX MSA
8640	48 423	Smith County
8680		Utica-Rome, NY MSA
8680	36 043	Herkimer County
8680	36 065	Oneida County
8750		Victoria, TX MSA
8750	48 469	Victoria County
8780		Visalia-Tulare-Porterville, CA MSA
8780	06 107	Tulare County
8800		Waco, TX MSA
8800	48 309	McLennan County
8872	97	Washington-Baltimore, DC-MD-VA-WV CMSA
8872	0720 97	Baltimore, MD PMSA
8872	0720 97 24 003	Anne Arundel County
8872	0720 97 24 005	Baltimore County
8872	0720 97 24 013	Carroll County
8872	0720 97 24 025	Harford County
8872	0720 97 24 027	Howard County
8872	0720 97 24 035	Queen Anne's County
8872	0720 97 24 510	Baltimore city
8872	3180 97	Hagerstown, MD PMSA
8872	3180 97 24 043	Washington County
8872	8840 97	Washington, DC-MD-VA-WV PMSA
8872	8840 97 11 001	District of Columbia
8872	8840 97 24 009	Calvert County, MD
8872	8840 97 24 017	Charles County, MD
8872	8840 97 24 021	Frederick County, MD
8872	8840 97 24 031	Montgomery County, MD
8872	8840 97 24 033	Prince George's County, MD
8872	8840 97 51 013	Arlington County, VA
8872	8840 97 51 043	Clarke County, VA
8872	8840 97 51 047	Culpeper County, VA
8872	8840 97 51 059	Fairfax County, VA
8872	8840 97 51 061	Fauquier County, VA
8872	8840 97 51 099	King George County, VA
8872	8840 97 51 107	Loudoun County, VA
8872	8840 97 51 153	Prince William County, VA
8872	8840 97 51 177	Spotsylvania County, VA
8872	8840 97 51 179	Stafford County, VA
8872	8840 97 51 187	Warren County, VA
8872	8840 97 51 510	Alexandria city, VA
8872	8840 97 51 600	Fairfax city, VA
8872	8840 97 51 610	Falls Church city, VA
8872	8840 97 51 630	Fredericksburg city, VA
8872	8840 97 51 683	Manassas city, VA
8872	8840 97 51 685	Manassas Park city, VA
8872	8840 97 54 003	Berkeley County, WV
8872	8840 97 54 037	Jefferson County, WV
8920		Waterloo-Cedar Falls, IA MSA
8920	19 013	Black Hawk County

8940		Wausau, WI MSA
8940	55 073	Marathon County
8960		West Palm Beach-Boca Raton, FL MSA
8960	12 099	Palm Beach County
9000		Wheeling, WV-OH MSA
9000	39 013	Belmont County, OH
9000	54 051	Marshall County, WV
9000	54 069	Ohio County, WV
9040		Wichita, KS MSA
9040	20 015	Butler County
9040	20 079	Harvey County
9040	20 173	Sedgwick County
9080		Wichita Falls, TX MSA
9080	48 009	Archer County
9080	48 485	Wichita County
9140		Williamsport, PA MSA
9140	42 081	Lycoming County
9200		Wilmington, NC MSA
9200	37 019	Brunswick County
9200	37 129	New Hanover County
9260		Yakima, WA MSA
9260	53 077	Yakima County
9280		York, PA MSA
9280	42 133	York County
9320		Youngstown-Warren, OH MSA
9320	39 029	Columbiana County
9320	39 099	Mahoning County
9320	39 155	Trumbull County
9340		Yuba City, CA MSA
9340	06 101	Sutter County
9340	06 115	Yuba County
9360		Yuma, AZ MSA
9360	04 027	Yuma County

File Layout:

Character	Length	Field
1-4	4	Four-digit FIPS MSA/CMSA code (6/30/93 definition)
5	1	Blank
6-9	4	Four-digit FIPS PMSA code (6/30/93 definition)
10	1	Blank
11-12	2	Alternative two-digit FIPS CMSA code (6/30/93 definition)
13	1	Blank
14-15	2	FIPS state code (blank at MA level)
16	1	Blank
17-19	3	FIPS county code (blank at MA level)
20	1	Blank
21-25	5	FIPS entity code (blank at MA, county, and town levels)
26	1	Blank
27-87	60	Area title, county name, and town name

* The portion of Sullivan city in Crawford County, Missouri, is legally part of the St. Louis, MO-IL MSA. The 1990 census tabulations and intercensal estimates for the St. Louis, MO-IL MSA do not include this area.

Appendix E Documentation of public notice, public hearing, comments and responses, and adoption of State Plan and rule 10 CSR 10-6.200

MISSOURI AIR CONSERVATION COMMISSION WILL HOLD PUBLIC HEARING

Jefferson City, MO: The Missouri Air Conservation Commission will hold a public hearing on Control of Petroleum Liquid Storage, Loading and Transfer and other issues on Thursday, March 25, 1999. The Public Hearing will begin at 9 a.m. at the Holiday Inn Select, 4221 S. Outer Road, St. Peters, MO. The Commission will hear testimony related to the following rule actions:

10 CSR-10-5.220 (amendment) Control of Petroleum Liquid Storage, Loading and Transfer

This proposed amendment clarifies rule language for consistency, incorporates new requirements for Stage II Vapor Recovery and Tank Truck Tightness Testing in the St. Louis metropolitan area and adds new rule language for automobile assembly plants. Specifically, the proposed amendment extends and clarifies testing deadlines and permitting procedures for the Stage II permit program and states that federal requirements limit the flow rate of gasoline dispensing. The proposed amendment also changes the test method for Tank Truck Tightness certification. This proposed amendment reflects the agreements made with industry in the last four years in the Stage II program and the Missouri Performance Evaluation Test Procedures (MO/PETP). The proposed amendment adds new language regarding initial fueling of motor vehicles at automobile assembly plants.

State Plan for Implementing the Hospital/Medical Infections Waste Incinerator Emission Guidelines

On September 16, 1997, the EPA adopted Emission Guidelines for existing Hospital, Medical, Infectious Waste Incinerators (HMIWI). The Clean Air Act requires that state regulatory agencies implement the Emission Guidelines according to a State Plan developed under sections 111(d) and 129 of the Clean Air Act. The Emission Guidelines are codified in 40 CFR part 60, subpart G and apply to existing HMIWI that commenced construction on or before June 20, 1996. The State Plan contains such information as the enforceable mechanism for affected sources, a source and emission inventory of sources in the State, and Title V permit application due dates.

The above documents will be available for review at the following locations: Missouri Department of Natural Resources, Air Pollution Control Program, 205 Jefferson St., Jefferson City, (573) 751-4817; Jefferson City Regional Office, 210 Hoover Drive, Jefferson City, (573) 751-2729; Kansas City Regional Office, 500 NE Colbern Road, Lee's Summit, (816) 554-4100; Northeast Regional Office, 1709 Prospect Drive, Macon, (816) 385-2129; Southeast Regional Office, 948 Lester Street, Poplar Bluff, (573) 840-9750; St. Louis Regional Office, 10805 Sunset Office Drive, St. Louis, (314) 301-7100; Southwest Regional Office, 2040 W. Woodland, Springfield, (417) 801-2300.

Persons with disabilities needing special services or accommodations to attend the meeting can make arrangements by calling the Division directly at (573) 751-4817. The Department toll free number is (800) 334-6946. Hearing impaired persons may contact the program through Missouri (800) 735-2966.

The commission holds public hearings under the provisions of chapter 643, RSMo. Citizens wishing to speak at the public hearing should notify the secretary to the Missouri Air Conservation Commission, Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, Missouri, 65102-0176, for telephone (573) 751-7840. The Department requests persons intending to give verbal presentations also provide a written copy of their testimony to the commission secretary at the time of the public hearing. The department also will accept written comments for the record until 5 p.m. on April 1, 1999; please send two copies of written comments to Chief, Planning Section, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176.

Rule proposals considered at this hearing may be adopted by the Missouri Air Conservation Commission as provided for under authority of 43.050, RSMo. For more information or a complete meeting agenda including rules being presented for adoption, contact the Department of Natural Resources, Air Pollution Control Program at (573) 751-4817.

AFFIDAVIT OF PUBLICATION

STATE OF MISSOURI)

) ss.

County of Boone)

I, Kendy Trinkle being duly sworn according to law, state that I am one of the publishers of the Columbia Daily Tribune, a daily newspaper of general circulation in the County of Boone where located; which has been admitted to the Post Office as second class matter in the City of Columbia, Missouri, the city of publication; which newspaper has been published regularly and consecutively for a period of three years and has a list of bona fide subscribers voluntarily engaged as such who have paid or agreed to pay a stated price for a subscription for a definite period of time, and that such newspaper has complied with the provision of Section 493.050, Revised Statutes of Missouri, 1949. The affixed notice appeared in said newspaper on the following consecutive issues:

1st Insertion	<u>February 22</u>	19 <u>99</u>
2nd Insertion		19
3rd Insertion		19
4th Insertion		19
5th Insertion		19
6th Insertion		19
7th Insertion		19
8th Insertion		19
9th Insertion		19
10th Insertion		19
11th Insertion		19
12th Insertion		19
13th Insertion		19
14th Insertion		19
15th Insertion		19
16th Insertion		19
17th Insertion		19
18th Insertion		19
19th Insertion		19
20th Insertion		19
21st Insertion		19
22nd Insertion		19

PRINTER'S FEE 10650

TRIBUNE PUBLISHING COMPANY

By Kendy Trinkle

Subscribed and sworn to before me this 25th day of

FEBRUARY 19 99

Notary Public

My Commission Expires MAY 20, 2002

RYAN W. PARKS
Notary Public - Notary Seal
STATE OF MISSOURI
Boone County
My Commission Expires: May 20, 2002

AFFIDAVIT OF PUBLICATION

NEWS PRESS

MO. DEPT. NAT. RESOURCES
MO 64501

REFERENCE 24019
53795 mo air conservation

County of Buchanan
State of Missouri

I, Wilma Goodwin, being duly sworn according to law, state that I am the Classified Advertising Mgr. of the St. Joseph News-Press, a daily newspaper of general circulation in the county of Buchanan, where located, which has been admitted to the Post Office as second class matter in the city of St. Joseph, the city of publication; which newspaper has been published regularly and consecutively for a period of three years and has a list of bona fide subscribers voluntarily engaged as such who have paid or agreed to pay a stated price for a subscription for a definite period of time, and that such newspaper has complied with the provisions of Section 493.050 Revised Statutes of Missouri, 1949. The affixed notice appeared in said newspaper on the following date:

A

PUBLISHED ON: 02/21

TOTAL COST: 310.59 AD SPACE 203 LINE
FILED ON: 02/28/99

(Signed) *Wilma Goodwin*

Subscribed and sworn to before me this
28th day of February 19 99

Esther Jones Notary Public

119

PUBLIC NOTICE

(Published in the St. Joseph News-Press, Sunday, 2/21/99)
MISSOURI AIR CONSERVATION COMMISSION
WILL HOLD PUBLIC HEARING
JEFFERSON CITY, MO
The Missouri Air Conservation Commission will hold a public hearing on Control of Petroleum Liquid Storage, Loading and Transfer and other issues on Thursday, March 25, 1999. The Public Hearing will begin at 9 a.m. at the Holiday Inn Select, 4221 S. Outer Road, St. Peters, MO. The commission will hear testimony related to the following rule actions:
10 CSR 105-220 (amendment) Control of Petroleum Liquid Storage, Loading and Transfer.
This proposed amendment clarifies rule language for consistency, incorporates new requirements for Stage II Vapor Recovery and Tank Truck Tightness Testing in the St. Louis metropolitan area, and adds new rule language for automobile assembly plants. Specifically, the proposed amendment extends and clarifies testing deadlines and permitting procedures for the Stage II permit program and states that federal requirements limit the flow rate of gasoline dispensing. The proposed amendment also changes the test method for Tank Truck Tightness certification. This proposed amendment reflects the agreements made with industry in the last four years in the Stage II program and the Missouri Performance Evaluation Test Procedures (MO/PETP). The proposed amendment adds new language regarding initial fueling of motor vehicles at automobile assembly plants.
State Plan for Implementing the Hospital, Medical, Infectious Waste Incinerator Emission Guidelines
On September 15, 1997, the EPA adopted Emission Guidelines for existing Hospital, Medical, Infectious Waste Incinerators (HMIWI). The Clean Air Act requires that state regulatory agencies implement the Emission Guidelines according to a State Plan developed under sections 111(d) and 129 of the Clean Air Act. The Emission Guidelines are codified in 40 CFR part 60, subpart C and apply to existing HMIWI that commenced construction prior to June 20, 1996. The State Plan contains such information as the enforceable mechanism for affected sources to submit and maintain an inventory of sources in the state, and Title V permit application due dates.
The above documents will be available for review at the following locations: Missouri Department of Natural Resources Air Pollution Control Program, 205 Jefferson St., Jefferson City, (573) 751-4817; Jefferson City Regional Office, 210 Hoover Drive, Jefferson City, (573) 751-2729; Kansas City Regional Office, 500 N.E.O. Center, Olathe, (816) 554-4100; Northeast Regional Office, 1709 Prospect Drive, Mazon, (816) 385-2129; Southeast Regional Office, 2483 East Street, Poplar Bluff, (573) 840-9750; St. Louis Regional Office, 0805 Sunset Office Drive, St. Louis, (314) 301-7100; Southwest Regional Office, 2040 W. Woodland, Springfield, (417) 891-3100.
Persons with disabilities requiring special services or accommodations to attend the hearing can make arrangements by calling the division directly at (573) 751-7940, the department's toll free number at (800) 334-6946, or by writing two weeks in advance of the meeting to: Missouri Department of Natural Resources, Air Conservation Commission Secretary, P.O. Box 176, Jefferson City, MO 65102. Hearing impaired persons may contact the program through Relay Missouri, (800) 765-2868.
The commission holds public hearings under the provision of Chapter 643, RSMo. Citizens wishing to speak at the public hearing should notify the secretary to the Missouri Air Conservation Commission, Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, Missouri 65102-0176, or telephone (573) 751-7940. The department requests persons intending to give verbal presentations also provide a written copy of their testimony to the commission secretary at the time of the public hearing. The department also will accept written comments for the record until 5 p.m. on April 1; please send two copies of written comments to Chief, Planning Section, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176.
Rule proposals considered at this hearing may be adopted by the Missouri Air Conservation Commission as provided for under authority of 643.050, RSMo. For more information or a complete meeting agenda, including rules being presented for adoption, contact the Department of Natural Resources Air Pollution Control Program at (573) 751-4817.

ESTHER JONES
Notary Public-Notary Seal
STATE OF MISSOURI
Buchanan County
My Commission Expires Jan. 23, 2000

JEFFERSON CITY, MO - The Missouri Air Conservation Commission will hold a public hearing on Control of Petroleum Liquid, Storage, Loading and Transfer and other issues on Thursday, March 25, 1999. The Public Hearing will begin at 9 a.m. at the Holiday Inn Select, 221 S. Outer Road, St. Peters, MO. The commission will hear testimony related to the following rule actions.

- 10 CSR 10-5.220 (amendment) Control of Petroleum Liquid, Storage, Loading and Transfer

This proposed amendment clarifies rule language for consistency, incorporates new requirements for Stage II Vapor Recovery and Tank Truck Tightness Testing in the St. Louis metropolitan area and adds new rule language for automobile assembly plants. Specifically, the proposed amendment extends and clarifies testing deadlines and permitting procedures for the Stage II permit program and states that federal requirements limit the flow rate of gasoline dispensing. The proposed amendment also changes the test method for Tank Truck Tightness certification. This proposed amendment reflects the agreements made with industry in the last four years in the Stage II program and the Missouri Performance Evaluation Test Procedures (MO/PETP). The proposed amendment adds new language regarding initial fueling of motor vehicles at automobile assembly plants.

- State Plan for Implementing the Hospital, Medical, Infectious Waste Incinerator Emission Guidelines

On September 15, 1997, the EPA adopted Emission Guidelines for existing Hospital, Medical, Infectious Waste Incinerators (HMIWI). The Clean Air Act requires that state regulatory agencies implement the Emission Guidelines according to a State Plan. The plan must include Sections 111(a) and 129 of the Clean Air Act. The Emission Guidelines are codified in 40 CFR part 60, subpart G, and apply to existing HMIWI that commenced construction on or before June 30, 1996. The State Plan contains such information as the enforceable mechanism for affected sources, a source and emission inventory of sources in the state, and Title V permit application due dates.

The above documents will be available for review at the following locations: Missouri Department of Natural Resources, Air Pollution Control Program, 205 Jefferson St., Jefferson City, (573) 751-4817; Jefferson City Regional Office, 210 Hoover Drive, Jefferson City, (573) 751-2729; Kansas City Regional Office, 500 NE Colbern Road, Lee's Summit, (816) 554-4100; Northeast Regional Office, 1709 Prospect Drive, Macon, (816) 385-2129; Southeast Regional Office, 948 Lester Street, Poplar Bluff, (573) 840-9750; St. Louis Regional Office, 10805 Sunset Office Drive, St. Louis, (314) 301-7100; Southwest Regional Office, 2040 W. Woodland, Springfield, (417) 891-4300.

Persons with disabilities requiring special services or accommodations to attend the meeting can make arrangements by calling the division directly at (573) 751-7840, the department's toll free number at (800) 334-6946, or by writing two weeks in advance of the meeting to: Missouri Department of Natural Resources, Air Conservation Commission Secretary, P.O. Box 176, Jefferson City, MO 65102. Hearing impaired persons may contact the program through Relay Missouri, (800) 735-2966.

The commission holds public hearings under the provisions of chapter 643, RSMo. Citizens wishing to speak at the public hearing should notify the secretary to the Missouri Air Conservation Commission, Missouri Department of Natural Resources, Air Pollution Control Pro-

AFFIDAVIT OF PUBLICATION

STATE OF MISSOURI)
COUNTY OF BUTLER) ss.

I, Don Schrieber, being duly sworn according to law, state that I am PUBLISHER of the DAILY AMERICAN REPUBLIC, a daily newspaper of general circulation in the Counties of Butler, Ripley, Carter, Wayne, Stoddard, New Madrid and Pemiscot; which newspaper has been admitted to the Post Office as second class matter in City of Poplar Bluff, Missouri, the city of publication; which newspaper has been published regularly and consecutively for a period of three years and has a list of bona fide subscribers voluntarily engaged as such who have paid or agreed to pay a stated price for a subscription for a definite period of time and that such newspaper has complied with the provisions of Section 493.050, Revised Statutes of Missouri 1969. The affixed notice appeared in said newspaper in the following consecutive issues:

- 1st Insertion Vol. 131 No. 22 day of Feb 19 99
- 2nd Insertion Vol. No. day of 19
- 3rd Insertion Vol. No. day of 19
- 4th Insertion Vol. No. day of 19
- 5th Insertion Vol. No. day of 19
- 6th Insertion Vol. No. day of 19
- 7th Insertion Vol. No. day of 19
- 8th Insertion Vol. No. day of 19
- 9th Insertion Vol. No. day of 19
- 10th Insertion Vol. No. day of 19

Don Schrieber

PUBLISHER

Subscribed and sworn to before me this 22 day of February 19 99.

Maury K. Lawrence
NOTARY PUBLIC

My commission expires 10/27/2000

Publication Fee \$ 118.43

gram, P.O. Box 176, Jefferson City, Missouri 65102-0176, or telephone (573) 751-7840. The department requests person intending to give verbal presentations also provide a written copy of their testimony to the commission secretary at the time of the public hearing. The department also will accept written comments for the record until 5 p.m. on April 1; please send two copies of written comments to Chief, Planning Section, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176.

Rule proposals considered at this hearing may be adopted by the Missouri Air Conservation Commission as provided for under authority of 643.050, RSMo. For more information or a complete meeting agenda, including rules being presented for adoption, contact the Department of Natural Resources, Air Pollution Control Program at (573) 751-4817.

AFFIDAVIT OF PUBLICATION

THE KANSAS CITY STAR COMPANY, publishers of THE KANSAS CITY STAR, a newspaper published in the City of Kansas City, County of Jackson, State of Missouri, confirms that the notice and/or advertisement of

RESOURCES, DEPT OF NATURAL AIR POLLUTION CONTROL PRO POB 176 JEFFERSON CITY MO 65102 20221154

7510572

a true copy of which is hereto attached, was duly published in the above said newspaper

FOR THE PERIOD OF: 1 Day (s)

COMMENCING: February 20, 1999

ENDING: February 20, 1999

STAR EDITION (S): 2/20/

STAR PAPER (S): 156

VOLUME: #119

Subscribed and sworn to before me, this Saturday, 20 February, 1999

I certify that I was duly qualified as a Notary Public for the State of Missouri, commissioned in Jackson County, Missouri. My commission expires August 18, 2002.

Laura S. Keeling, Notary

Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, Missouri 65102-0176, or telephone (573) 751-7840. The department requests persons intending to give verbal presentations also provide a written copy of their testimony to the commission secretary at the time of the public hearing. The department also will accept written comments for the record until 5 p.m. on April 1, please send two copies of written comments to Chief, Planning Section, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176. Rule proposals considered at this hearing may be adopted by the Missouri Air Conservation Commission as provided for under authority of 643.050, RSMo. For more information or a complete hearing agenda, including rules being presented for adoption, contact the Department of Natural Resources Air Pollution Control Program at (573) 751-4817.

MISSOURI AIR CONSERVATION COMMISSION WILL HOLD PUBLIC HEARING JEFFERSON CITY, MO - The Missouri Air Conservation Commission will hold a public hearing on Control of Petroleum Liquid, Storage, Loading and Transfer and other issues on Thursday, March 25, 1999. The Public Hearing will begin at 9 a.m. at the Holiday Inn Select, 4221 S. Outer Road, St. Peters, MO. The commission will hear testimony related to the following rule actions. *10 CSR 10-5.220 (amendment) Control of Petroleum Liquid, Storage, Loading and Transfer This proposed amendment clarifies rule language for consistency, incorporates new requirements for Stage II Vapor Recovery and Tank Truck Tightness Testing in the St. Louis metropolitan area, and adds new rule language for automobile assembly plants. Specifically, the proposed amendment extends and clarifies testing deadlines and permitting procedures for the Stage II permit program and states that federal requirements limit the flow rate of gasoline dispensing. The proposed amendment also changes the test method for Tank Truck Tightness certification. This proposed amendment reflects the agreements made with industry in the last four years in the Stage II program and the Missouri Performance Evaluation Test Procedures (MO/PEEP). The proposed amendment adds new language regarding initial fueling of motor vehicles at automobile assembly plants. * State Plan for Implementing the Hospital, Medical, Infectious Waste Incinerator Emission Guidelines. On September 15, 1997, the EPA adopted Emission Guidelines for existing Hospital Medical Infectious Waste Incinerators (HMIWI). The Clean Air Act requires that state regulatory agencies implement the Emission Guidelines according to a State Plan developed under sections 111(d) and 129 of the Clean Air Act. The Emission Guidelines are codified in 40 CFR part 60, subpart G and apply to existing HMIWI that commenced construction on or before June 20, 1996. The State Plan contains such information as the enforceable mechanism for affecting sources, a source and emission inventory of sources in the state, the Title V permit application due dates. The above documents will be available for review at the following locations: Missouri Department of Natural Resources, Air Pollution Control Program, 205 Jefferson St., Jefferson City (573) 751-4817, Jefferson City Regional Office, 210 Hoover Drive, Jefferson City, (573) 751-2729, Kansas City Regional Office, 500 NE Colbern Road, Lee's Summit, (816) 534-4100, Northwest Regional Office, 1709 Prospect Drive, Macon, (816) 385-2129, Southeast Regional Office, 948 Lester Street, Poplar Bluff, (573) 840-750, St. Louis Regional Office, 10805 Sunset Office Drive, St. Louis, (314) 301-7100, Southwest Regional Office, 2040 W. Woodland, Springfield, (417) 891-4300. Persons with disabilities requiring special services or accommodations to attend the meeting can make arrangements by calling the division directly at (573) 751-7840, the department toll free number at (800) 334-6944, or by writing two weeks in advance of the meeting to: Missouri Department of Natural Resources, Air Conservation Commission, Secretary, P.O. Box 176, Jefferson City, MO 65102. Hearing impaired persons may contact the program through Relay Missouri (800) 735-2966. The commission holds public hearings under the provisions of chapter 643, RSMo. Citizens wishing to speak at the public hearings should notify the secretary to the Missouri Air Conservation Commission.

NEWS-LEADER

651 Boonville • MPO Box 798
Springfield, Missouri 65801
TELEPHONE (417) 836-1100

RECEIVED

'99 MAR 1 PM 4 35

To: DNR-Air Pollution

AIR POLLUTION

February 21 1999

MISSOURI AIR CONSERVATION COMMISSION WILL HOLD PUBLIC HEARING

JEFFERSON CITY, MO. The Missouri Air Conservation Commission will hold a public hearing on Control of Petroleum Liquid, Storage, Loading and Transfer and other issues on Thursday March 25, 1999. The Public Hearing will begin at 9 a.m. at the Holiday Inn Select, 4221 S. Outer Road, St. Peters, MO. The commission will hear testimony related to the following rule actions:

- 10 CSR 10-5.220 (amendment) Control of Petroleum Liquid, Storage, Loading and Transfer

This proposed amendment clarifies rule language for consistency, incorporates new requirements for State II Vapor Recovery and Tank Truck Tightness Testing in the St. Louis metropolitan area, and adds new rule language for automobile assembly plants. Specifically, the proposed amendment extends and clarifies testing deadlines and permitting procedures for the State II permit program and states that federal requirements limit the flow rate of gasoline dispensing. The proposed amendment also changes the test method for Tank Truck Tightness Certification. This proposed amendment reflects the agreements made with industry in the last four years in the Stage II program and the Missouri Performance Evaluation Test Procedures (MOPETP) rule. The proposed amendment adds new language regarding initial fueling of motor vehicles at automobile assembly plants.

State Plan for Implementing the Hospital, Medical, Infectious Waste Incinerator Emission Guidelines

On September 15, 1997, the EPA adopted Emission Guidelines for existing Hospital, Medical, Infectious Waste Incinerators (HMIWI). The Clean Air Act requires that state regulatory agencies implement the Emission Guidelines according to a State Plan developed under Sections 111(d) and 129 of the Clean Air Act. The Emission Guidelines are codified in 40 CFR part 60, subpart Cc and apply to existing HMIWI that commenced construction on or before June 20, 1995. The State Plan contains such information as the enforceable mechanism for affected sources, a source and emission inventory of sources in the state, and Title V permit application due dates.

The above documents will be available for review at the following locations: Missouri Department of Natural Resources, Air Pollution Control Program, 205 Jefferson St., Jefferson City, (573) 751-4817; Jefferson City Regional Office, 210 Hoover Drive, Jefferson City, (573) 751-2729; Kansas City Regional Office, 500 NE Colbern Road, Lee's Summit, (816) 554-4100; Northeast Regional Office, 1709 Prospect Drive, Macon, (816) 385-2129; Southeast Regional Office, 948 Lester Street, Poplar Bluff, (573) 840-9750; St. Louis Regional Office, 10805 Sunset Office Drive, St. Louis (314) 301-7400; Southwest Regional Office, 2040 W. Woodland, Springfield, (417) 691-4300.

Persons with disabilities requiring special services or accommodations to attend the meeting can make arrangements by calling the division directly at (573) 751-7840; the department's toll free number at (800) 934-6965; or by writing two weeks in advance of the meeting to Missouri Department of Natural Resources, Air Conservation Commission, Secretary, P.O. Box 176, Jefferson City, MO 65102. Hearing impaired persons may contact the program through Relay Missouri, (800) 735-2968.

The commission holds public hearings under the provisions of chapter 643, RSMo. Citizens wishing to speak at the public hearing should notify the secretary to the Missouri Air Conservation Commission, Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, Missouri 65102-0176, or telephone (573) 751-7840. The department requests persons intending to give verbal presentations also provide a written copy of their testimony to the commission secretary at the time of the public hearing. The department also will accept written comments for the record until 5 p.m. on April 1; please send two copies of written comments to Chief Planning Section, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176.

Rule proposals considered at this hearing may be adopted by the Missouri Air Conservation Commission as provided for under authority of 643.050, RSMo. For more information or a complete meeting agenda, including rules being presented for adoption, contact the Department of Natural Resources, Air Pollution Control Program at (573) 751-4817.

PROOF OF PUBLICATION

STATE OF MISSOURI

County of Greene

Marsha Caron

I, Marsha Caron, of Springfield, Missouri, of lawful age, do upon my oath state that I am the Legal Clerk of The News Leader, and that I am duly authorized to and do make this affidavit for and on behalf of The News Leader a newspaper published daily in the City of Springfield, Greene County, Missouri; that the public advertisement, notice or order of publication, a true copy of which is hereto attached, was published in said newspaper 1 times upon the following dates:

- First publication on Sunday the 21st day of February, 1999.
- Second publication on the day of 19
- Third publication on the day of 19
- Fourth publication on the day of 19
- Fifth publication on the day of 19
- Last publication on the day of 19

I do further state under oath that said newspaper has been admitted to the Post Office as second class matter; that it is a newspaper of general circulation in the City of Springfield, Missouri; that it has been published regularly and consecutively for a period of more than three years; that it has a list of bona fide subscribers voluntarily engaged as such, who have paid or agreed to pay a stated price for a subscription for a definite period of time, and that said newspaper has complied with the provisions of Section 14968 Revised Statutes of Missouri, 1939, relating to "Public Advertisements."

Marsha Caron

Subscribed and sworn to before me this 23rd day of February, 1999

My commission expires *Renee Swaters*

RENEE SWATERS
NOTARY PUBLIC STATE OF MISSOURI



Notary Public In and for Greene County, Missouri

ST. LOUIS POST-DISPATCH

PULITZER PUBLISHING COMPANY

AFFIDAVIT OF PUBLICATION

A01TRDCL37051 1223
AIR POLLUTION CONTRO
MO DEPTOFNATRALRES
P.O. BOX 176
JEFFERSON CITY MO 65102

THE ATTACHED ADVERTISEMENT WAS PUBLISHED IN THE ST. LOUIS
POST-DISPATCH IN CLASSIFICATION 4305, 1 TIME, STARTING ON
DECEMBER 23, 1998 AND ENDING ON DECEMBER 23, 1998.

MISSOURI AIR CONSERVATION COMMISSION WILL HOLD PUBLIC HEARING

JEFFERSON CITY, MO — The Missouri Air Conservation Commission will hold a public hearing on Gasoline Oxygen Content Requirements for the St. Louis area, the Restriction of Emission of Odors (related to Class 1 Concentrated Animal Feeding Operations), and other issues on Thursday, February 4, 1999. The Public Hearing will begin at 9 a.m. at the Truman State Office Building, Room 492, 301 West High Street, Jefferson City, MO.

Two additional Public Hearings will be held at the following locations to take public comments on the Restriction of Emission of Odors and Control of Odors in the Ambient Air. These Public Hearings will be 7:00 p.m. - 9 p.m., January 26, 1999, Holiday Inn, University Plaza, 233 John G. Heasman Parkway, Springfield, MO; and 7:00 p.m. - 10 p.m., February 2, 1999, Days Inn, Highway 63 South, Kirksville, MO.

• 10 CSR 10-2.070 (amendment) Restriction of Emission of Odors.

This proposed amendment removes the current odor emission exemption for Class 1A concentrated animal feeding operations and requires preparation and implementation of an odor control plan at each facility. It also restricts the emission of odoriferous matter from Class 1A concentrated animal feeding operations.

• 10 CSR 10-2.090 (amendment) Restriction of Emission of Odors.

This proposed amendment removes the current odor emission exemption for Class 1A concentrated animal feeding operations and requires preparation and implementation of an odor control plan at each facility. It also restricts the emission of odoriferous matter from Class 1A concentrated animal feeding operations.

• 10 CSR 10-4.070 (amendment) Restriction of Emission of Odors.

This proposed amendment removes the current odor emission exemption for Class 1A concentrated animal feeding operations and requires preparation and implementation of an odor control plan at each facility. It also restricts the emission of odoriferous matter from Class 1A concentrated animal feeding operations.

• 10 CSR 10-5.160 (amendment) Control of Odors in the Ambient Air.

This proposed amendment removes the current odor emission exemption for Class 1A concentrated animal feeding operations and requires preparation and implementation of an odor control plan at each facility. It also restricts the emission of odoriferous matter from Class 1A concentrated animal feeding operations.

• 10 CSR 10-6.200 (new rule) Hospital, Medical, Infectious Waste Incinerators.

This proposed rule establishes emission limits for existing hospital, medical, and infectious waste incinerators. The pollutants regulated include metals, particulate matter, acid gases, organic compounds, carbon monoxide, and opacity. This proposed rule includes requirements for operator training and qualification, waste management, compliance and performance testing, monitoring, and reporting/recordkeeping.

• 10 CSR 10-3.446 (new rule) Gasoline Oxygen Content Requirements

This proposed rule includes oxygen content requirements during the winter months, also known as the non-reliability control period. By increasing the average oxygen content standard of gasoline sold or offered for sale in the St. Louis ozone nonattainment area, more compatibility between oxygenates may occur to meet gasoline oxygen content requirements, which offers potential benefits to the state. For example, increasing the average oxygen content of gasoline during the winter months will offer increased carbon monoxide emission reductions and air toxics emission reductions.

• 10 CSR 10-6.270 (amendment) Acid Rain Source Peaks Required

This proposed amendment adopts regulations incorporating NOx federal rulemaking codified in 40 CFR part 76, requiring Phase 1 and II sources to file NOx permit applications with the state.

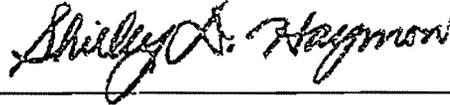
The above documents will be available for review at the following locations: Missouri Department of Natural Resources, Air Pollution Control Program, 205 Jefferson St., Jefferson City, (573) 751-4817; Jefferson City Regional Office, 210 Hoover Drive, Jefferson City, (573) 751-2729; Kansas City Regional Office, 500 NE Colburn Road, Lee's Summit, (816) 554-4100; Northeast Regional Office, 1709 Prospect Drive, Macon, (814) 385-2179; Southeast Regional Office, 948 Lester Street, Poplar Bluff, (573) 840-9750; St. Louis Regional Office, 10805 Sunset Office Drive, St. Louis, (314) 301-7100; Southwest Regional Office, 2040 W Woodland, Springfield, (417) 891-4300.

Persons with disabilities requiring special services or accommodations to attend the meetings can make arrangements by calling the division directly at (573) 751-7840, the department's toll free number at (800) 334-6946, or by writing two weeks in advance of the meetings to: Missouri Department of Natural Resources, Air Conservation Commission Secretary, P.O. Box 176, Jefferson City, MO 65102 Hearing impaired persons may contact the program through Relay Missouri, (800) 735-2966.

The commission holds public hearings under the provisions of chapter 643, RSMo. Citizens wishing to speak at the public hearings should notify the secretary to the Missouri Air Conservation Commission, Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, Missouri 65102-0176, or telephone (573) 751-7840. The department requests persons intending to give verbal presentations also provide a written copy of their testimony to the commission secretary at the time of the public hearing. The department also will accept written comments for the record until 5 p.m. on February 11; please send two copies of written comments to Chief, Planning Section, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176.

Rule proposals considered at these hearings may be adopted by the Missouri Air Conservation Commission as provided for under authority of 643.050, RSMo. For more information or a complete meeting agenda, including rules being presented for adoption, contact the Department of Natural Resources' Air Pollution Control Program at (573) 751-4817.

On February 4, 1999, the commission will hear testimony related to the following rule actions.



CUSTOMER SERVICE MANAGER

SWORN TO AND SUBSCRIBED BEFORE ME,
THIS 24 DAY OF DECEMBER, 1998.

Notary Public — Notary Seal
STATE OF MISSOURI
St. Louis County

My Commission Expires: June 26, 2001

NOTARY PUBLIC, CITY OF ST. LOUIS

AFFIDAVIT CHARGE \$ 3.00 EACH

123

SPRINGFIELD NEWS-LEADER

651 Boonville • MPO Box 798
Springfield, Missouri 65801
TELEPHONE (417) 836-1100

To: DNR-Air Pollution

December 31 19 98

MISSOURI AIR CONSERVATION COMMISSION WILL HOLD PUBLIC HEARING

JEFFERSON CITY, MO. The Missouri Air Conservation Commission will hold a public hearing on Gasoline Oxygen Content Requirements for the St. Louis area, the Restriction of Emission of Odors (related to Class 1 Concentrated Animal Feeding Operations), and other issues on Thursday, February 4, 1999. The public hearing will begin at 9 a.m. at the Truman State Office Building, Room 492, 307 West High Street, Jefferson City, MO.

Two additional public hearings will be held at the following locations to take public comments on the Restriction of Emission of Odors and Control of Odors in the Ambient Air. These public hearings will be 10:00 p.m. - 9:00 p.m., January 6, 1999, Holiday Inn, University Plaza, 333 John Q. Hammons Parkway, Springfield, MO; and 10:00 p.m. - 9:00 p.m., February 1, 1999, Days Inn, Highway 63 South, Kirksville, MO. On February 4, 1999, the commission will hear testimony related to the following rule actions:

10 CSR 10-2.070 (amendment) Restriction of Emission of Odors. This proposed amendment removes the current odor emission exemption for Class 1A concentrated animal feeding operations and requires preparation and implementation of an odor control plan at each facility. It also restricts the emission of odorous matter from Class 1A concentrated animal feeding operations.

10 CSR 10-3.090 (amendment) Restriction of Emission of Odors. This proposed amendment removes the current odor emission exemptions for Class 1A concentrated animal feeding operations and requires preparation and implementation of an odor control plan at each facility. It also restricts the emission of odorous matter from Class 1A concentrated animal feeding operations.

10 CSR 10-4.070 (amendment) Restriction of Emission of Odors. This proposed amendment removes the current odor emission exemption for Class 1A concentrated animal feeding operations and requires preparation and implementation of an odor control plan at each facility. It also restricts the emission of odorous matter from Class 1A concentrated animal feeding operations.

10 CSR 10-5.160 (amendment) Control of Odors in the Ambient Air.

This proposed amendment removes the current odor emission exemption for Class 1A concentrated animal feeding operations and requires preparation and implementation of an odor control plan at each facility. It also restricts the emission of odorous matter from Class 1A concentrated animal feeding operations.

10 CSR 10-6.200 (new rule) Hospital, Medical, Infectious Waste Incinerators.

This proposed rule establishes emission limits for existing hospital, medical, and infectious waste incinerators. The pollutants regulated include metals, particulate matter, acid gases, organic compounds, carbon monoxide, and opacity. This proposed rule includes requirements for operator training and qualification, waste management, compliance and performance testing, monitoring, and reporting/recordkeeping.

10 CSR 10-5.446 (new rule) Gasoline Oxygen Content Requirements.

This proposed rule includes oxygen content requirements during the winter months also known as the non-volatility control period. By increasing the average oxygen content standard of gasoline sold or offered for sale in the St. Louis ozone nonattainment area, more combustion beneficially generates less carbon monoxide, which offers substantial benefits to the state. For example, increasing the average oxygen content of gasoline during the winter months will offset increased carbon monoxide emission reductions and air toxics emission reductions.

10 CSR 10-6.270 (amendment) Acid Rain Source Permits Required.

This proposed amendment adopts regulations incorporating MO federal rulemaking codified in 40 CFR Part 76, requiring Phase I and II sources to file NOx permit applications with the state.

The above documents will be available for review at the following locations: Missouri Department of Natural Resources, Air Pollution Control Program, 205 Jefferson St., Jefferson City, (573) 751-4817; Jefferson City Regional Office, 210 Hoover Drive, Jefferson City, (573) 751-2729; Kansas City Regional Office, 500 NE Colbern Road, Lee's Summit, (816) 554-4100; Northeast Regional Office, 1709 Prospect Drive, Macon, (816) 385-2129; Southeast Regional Office, 948 Lester Street, Poplar Bluff, (573) 840-9750; St. Louis Regional Office, 10805 Sunset Office

PROOF OF PUBLICATION

STATE OF MISSOURI

County of Greene

Marsha Caron

I, Marsha Caron, of Springfield, Missouri, of lawful age, do upon my oath state that I am the Legal Clerk of

The News Leader, and that I am duly authorized to and do make this affidavit for and on behalf of The News Leader

a newspaper published daily in the City of Springfield, Greene County, Missouri; that the public advertisement, notice or order of publication, a true copy of which is hereto attached, was published in said newspaper times upon the following dates:

First publication on Saturday the 26th day of December 19 98
Second publication on the day of 19
Third publication on the day of 19
Fourth publication on the day of 19
Fifth publication on the day of 19
Last publication on the day of 19

I do further state under oath that said newspaper has been admitted to the Post Office as second class matter; that it is a newspaper of general circulation in the City of Springfield, Missouri; that it has been published regularly and consecutively for a period of more than three years; that it has a list of bona fide subscribers voluntarily engaged as such, who have paid or agreed to pay a stated price for a subscription for a definite period of time, and that said newspaper has complied with the provisions of Section 14968 Revised Statutes of Missouri, 1939, relating to "Public Advertisements."

Drive, St. Louis, (314) 301-7100; Southwest Regional Office, 2040 W. Woodland, Springfield, (417) 891-4300.

Persons with disabilities require special services or accommodations to attend the meetings can make arrangements by calling the division directly at (573) 751-7840, the department's toll-free number at (800) 334-6946; or by writing two weeks in advance of the meetings to: Missouri Department of Natural Resources, Air Conservation Commission, Secretary, P.O. Box 176, Jefferson City, MO 65102. Hearing impaired persons may contact the program through Relay Missouri, (800) 735-2966.

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HM

Subscribed and sworn to before me this January day of January, 19 99.

My commission expires Amy L. Hathaway

Notary Public - State of Missouri

Greene County - My Commission Expires

March 17, 2000



Notary Public in and for Greene County, Missouri

AFFIDAVIT OF PUBLICATION

NEWS PRESS

MO. DEPT. NAT. RESOURCES
MO 64501

REFERENCE: 24019
50434 gasoline oxygen cont

County of Buchanan
State of Missouri

I, Wilma Goodwin, being duly sworn according to law, state that I am the Classified Advertising mgr. of the St. Joseph News Press, a daily newspaper of general circulation in the county of Buchanan, where located; which has been admitted to the Post Office as second class matter in the city of St. Joseph, the city of publication; which newspaper has been published regularly and consecutively for a period of three years and has a list of bona fide subscribers voluntarily engaged as such who have paid or agreed to pay a stated price for a subscription for a definite period of time, and that such newspaper has complied with the provisions of Section 493.050 Revised Statutes of Missouri, 1949. The affixed notice appeared in said newspaper on the following date:

A

PUBLISHED ON: 12/26

ESTIMATED COST: 399.00 AD SPACE 266 LINE
PUBLISHED ON: 12/31/98

(Signed) *Wilma Goodwin*

Subscribed and sworn to before me this
31st day of December 1998

Esther Jones Notary Public

125

PUBLIC NOTICE
(Published in the St. Joseph News-Press Saturday 12/26/98)
MISSOURI AIR CONSERVATION COMMISSION
WILL HOLD PUBLIC HEARING

JEFFERSON CITY, MO-The Missouri Air Conservation Commission will hold a public hearing on Gasoline Oxygen Content Requirements for the St. Louis area, the Restriction of Emission of Odors (related to Class I Concentrated Animal Feeding Operations), and other issues on Thursday, February 4, 1999. The Public Hearing will begin at 9 a.m. at the Truman State Office Building, Room 492, 301 West High Street, Jefferson City, MO.

Two additional Public Hearings will be held at the following locations to take public comments on the Restriction of Emission of Odors and Control of Odors in the Ambient Air. These Public Hearings will be 7:00 p.m.-9:00 p.m., January 26, 1999, Holiday Inn, University Plaza, 333 John Q. Hammons Parkway, Springfield, MO, and 7:00 p.m.-10:00 p.m., February 2, 1999, Days Inn, Highway 63 South, Kirksville, MO.

On February 4, 1999, the commission will hear testimony related to the following rule actions:

- 10 CSR 10-2.070 (amendment) Restriction of Emission of Odors
This proposed amendment removes the current odor emission exemption for Class 1A concentrated animal feeding operations and requires preparation and implementation of an odor control plan at each facility. It also restricts the emission of odorous matter from Class 1A concentrated animal feeding operations.
- 10 CSR 10-3.090 (amendment) Restriction of Emission of Odors
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This proposed rule includes oxygen content requirements during the winter months, also known as the non-volatility control period. By increasing the average oxygen content standard of gasoline sold or offered for sale in the St. Louis ozone nonattainment area, more competition between oxygenates may occur to meet gasoline oxygen content requirements, which offers potential benefits to the state. For example, increasing the average oxygen content of gasoline during the winter months will offer increased carbon monoxide emission reductions and air toxics emission reductions.
- 10 CSR 10-6.270 (amendment) Acid Rain Source Permits Required
This proposed amendment adopts regulations incorporating NOx federal rulemaking codified in 40 CFR part 76, requiring Phase I and II sources to file NOx permit applications with the state.

The above documents will be available for review at the following locations: Missouri Department of Natural Resources, Air Pollution Control Program, 205 Jefferson St., Jefferson City, (573) 751-4817; Jefferson City Regional Office, 210 Hoover Drive, Jefferson City, (573) 751-2729; Kansas City Regional Office, 500 NE Colbern Road, Lee's Summit, (816) 554-4100; Northeast Regional Office, 1709 Prospect Drive, Macon, (816) 385-2129; Southeast Regional Office, 948 Lester Street, Poplar Bluff, (573) 840-8750; St. Louis Regional Office, 10805 Sunset Office Drive, St. Louis, (314) 301-7100; Southwest Regional Office, 2040 W. Woodland, Springfield, (417) 891-4300.

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ESTHER JONES
Notary Public Notary Seal
STATE OF MISSOURI
Buch...

AFFIDAVIT OF PUBLICATION

THE KANSAS CITY STAR COMPANY, publishers of THE KANSAS CITY STAR, a newspaper published in the City of Kansas City, County of Jackson, State of Missouri, confirms that the notice and/or advertisement of

Dept. of Natural Resources
Air Pollution Control Program
PO Box 176
Jefferson City, MO 65102
WA0129435

a true copy of which is hereto attached, was duly published in the above said newspaper

FOR THE PERIOD OF: 1 Day (s)

COMMENCING: December 23

ENDING: December 23

STAR EDITION (S): December 23

STAR PAPER (S): #97

VOLUME: #119

Subscribed and sworn to before me, this 29th day of December, 1998. I certify that I was duly qualified as a Notary Public for the State of Missouri, commissioned in Jackson County, Missouri. My commission expires August 18, 2002.

Laura S. Keeling
LAURA S. KEELING, NOTARY

Permits Required
This proposed amendment adopts regulations incorporating NOx federal rule-making codified in 40 CFR part 70, requiring Phase I and II sources to file NOx permit applications with the state.
The above documents will be available for review at the following locations: Missouri Department of Natural Resources, Air Pollution Control Program, 205 Jefferson St., Jefferson City (573) 751-4817; Jefferson City Regional Office, 210 Hoover Drive, Jefferson City, (573) 751-2729; Kansas City Regional Office, 500 NE Colbern Road, Lee's Summit, (816) 554-4100; Northeast Regional Office, 1709 Prospect Drive, Mason, (816) 385-2129; Southeast Regional Office, 948 Lester Street, Poplar Bluff, (573) 840-9750; St. Louis Regional Office, 10800 Sunset Office Drive, St. Louis, (314) 301-1100; Southwest Regional Office, 2040 W. Woodland, Springfield, (417) 891-4300.
Persons with disabilities requiring special services or accommodations to attend the meetings can make arrangements by calling the division directly at (573) 751-7840, the department's toll free number at (800) 334-6946, or by writing two weeks in advance of the meetings to: Missouri Department of Natural Resources, Air Conservation Commission Secretary, P.O. Box 176, Jefferson City, MO 65102. Hearing impaired persons may contact the program through Relay Missouri (800) 735-2966.
The commission holds public hearings under the provisions of chapter 643, RSMo. Citizens wishing to speak at the public hearings should notify the secretary to the Missouri Air Conservation Commission, Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, Missouri 65102-0176, or telephone (573) 751-7840. The department requests persons intending to give verbal presentations also provide a written copy of their testimony to the commission secretary at the time of the public hearing. The department also will accept written comments for the record until 5 p.m. on February 11; please send two copies of written comments to Chief, Planning Section, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176.
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CONSERVATION COMMISSION WILL HOLD PUBLIC HEARING JEFFERSON CITY, MO - The Missouri Air Conservation Commission will hold a public hearing on Gasoline Oxygen Content Requirements for the St. Louis area, the Restriction of Emission of Odors (related to Class I Concentrated Animal Feeding Operations), and other issues on Thursday, February 4, 1999. The Public Hearing will begin at 9 a.m. at the Truman State Office Building, Room 492, 301 West High Street, Jefferson City, MO.
Two additional Public Hearings will be held at the following locations to take public comments on the Restriction of Emission of Odors and Control of Odors in the Ambient Air. These Public Hearings will be 7:00 p.m. - 9:00 p.m. January 26, 1999, Holiday Inn, University Plaza, 333 John Q. Hammons Parkway, Springfield, MO and 7:30 p.m. - 10:30 p.m., February 2, 1998 Days Inn, Highway 63 South, Kirksville, MO.
On February 4, 1999, the commission will take testimony related to the following rule actions:
*10 CSR 10-2.070 (amendment) Restriction of Emission of Odors
This proposed amendment removes the current odor emissions exemption for Class 1A concentrated animal feeding operations and requires preparation and implementation of an odor control plan at each facility. It also restricts the emission of odorous matter from Class 1A concentrated animal feeding operations.
*10 CSR 10-3.090 (amendment) Restriction of Emission of Odors
This proposed amendment removes the current odor emissions exemption for class 1A concentrated animal feeding operations and requires preparation and implementation of an odor control plan at each facility. It also restricts the emission of odorous matter from Class 1A concentrated animal feeding operations.
*10 CSR 10-4.070 (amendment) Restriction of Emission of Odors
This proposed amendment removes the current odor emissions exemption for class 1A concentrated animal feeding operations and requires preparation and implementation of an odor control plan at each facility. It also restricts the emission of odorous matter from Class 1A concentrated animal feeding operations.
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This proposed rule establishes emission limits for existing hospital, medical, and infectious waste incinerators. The pollutants regulated include metals, particulate matter, acid gases, organic compounds, carbon monoxide, and opacity. This proposed rule includes requirements for operator training and qualification, waste management, compliance and performance testing, monitoring, and reporting/recordkeeping.
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This proposed amendment removes the current odor emission exemption for Class 1A concentrated animal feeding operations and requires preparation and implementation of an odor control plan at each facility. It also restricts the emission of odorous matter from Class 1A concentrated animal feeding operations.

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- 10 CSR 10-5.160 (amendment) Control of Odors in the Ambient Air

This proposed amendment removes the current odor emission exemption for Class 1A concentrated animal feeding operations and requires preparation and implementation of an odor control plan at each facility. It also restricts the emission of odorous matter from Class 1A concentrated animal feeding operations.

- 10 CSR 10-6.200 (new rule) Hospital, Medical, Infectious Waste Incinerators

This proposed rule establishes emission limits for existing hospital, medical, and infectious waste incinerators. The pollutants regulated include metals, particulate matter, acid gases, organic compounds, carbon monoxide, and opacity. This proposed rule includes requirements for operator training and qualification, waste management, compliance and performance testing, monitoring, and reporting/recordkeeping.

- 10 CSR 10-5.446 (new rule) Gasoline Oxygen Content Requirements

This proposed rule includes oxygen content requirements during the winter months.

STATE OF MISSOURI)
COUNTY OF BUTLER) ss.

I, Don Schrieber, being duly sworn according to law, state that I am PUBLISHER of the DAILY AMERICAN REPUBLIC, a daily newspaper of general circulation in the Counties of Butler, Ripley, Carter, Wayne, Stoddard, New Madrid and Pemiscot; which newspaper has been admitted to the Post Office as second class matter in City of Poplar Bluff, Missouri, the city of publication; which newspaper has been published regularly and consecutively for a period of three years and has a list of bona fide subscribers voluntarily engaged as such who have paid or agreed to pay a stated price for a subscription for a definite period of time and that such newspaper has complied with the provisions of Section 493.050, Revised Statutes of Missouri 1969. The affixed notice appeared in said newspaper in the following consecutive issues:

1st	Insertion	Vol. <u>130</u>	No. <u>34</u>	day of <u>Dec</u>	19 <u>98</u>
2nd	Insertion	Vol.	No.	day of	19
3rd	Insertion	Vol.	No.	day of	19
4th	Insertion	Vol.	No.	day of	19
5th	Insertion	Vol.	No.	day of	19
6th	Insertion	Vol.	No.	day of	19
7th	Insertion	Vol.	No.	day of	19
8th	Insertion	Vol.	No.	day of	19
9th	Insertion	Vol.	No.	day of	19
10th	Insertion	Vol.	No.	day of	19

Don Schrieber

PUBLISHER

Subscribed and sworn to before me this 28 day of Dec.

19 98.

Maugh L. Kensing
NOTARY PUBLIC

My commission expires 10/27/2000

Publication Fee \$ 177.65

standard of gasoline sold or offered in the St. Louis ozone nonattainment area. More competition between oxygenates may occur to meet gasoline oxygen content requirement, which offers potential benefits to the state. For example, increasing the average oxygen content of gasoline during the winter months will offer increased carbon monoxide emission reductions and air toxics emission reductions.

• 10 CSR 10-6.270 (amendment) Acid Rain Source Permits Required

This proposed amendment adopts regulations incorporating NO_x federal rulemaking codified in 40 CFR part 76, requiring Phase I and II sources to file NO_x permit applications with the state.

The above documents will be available for review at the following locations: Missouri Department of Natural Resources, Air Pollution Control Program, 205 Jefferson St., Jefferson City, (573) 751-4817; Jefferson City Regional Office, 210 Hoover Drive, Jefferson City, (573) 751-2729; Kansas City Regional Office, 500 NE Colbern Road, Lee's Summit, (816) 554-4100; Northeast Regional Office, 1709 Prospect Drive, Macon, (816) 385-2129; Southeast Regional Office, 948 Lester Street, Poplar Bluff, (573) 840-9750; St. Louis Regional Office, 10805 Sunset Office Drive, St. Louis, (314) 301-7100; Southwest Regional Office, 2040 W. Woodland, Springfield, (417) 891-4300.

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AFFIDAVIT OF PUBLICATION

STATE OF MISSOURI)

County of Boone)

ss.

I, Kendy Trumble being duly sworn according to law, state that I am one of the publishers of the Columbia Daily Tribune, a daily newspaper of general circulation in the County of Boone where located; which has been admitted to the Post Office as second class matter in the City of Columbia, Missouri, the city of publication; which newspaper has been published regularly and consecutively for a period of three years and has a list of bona fide subscribers voluntarily engaged as such who have paid or agreed to pay a stated price for a subscription for a definite period of time, and that such newspaper has complied with the provision of Section 493.050, Revised Statutes of Missouri, 1949. The affixed notice appeared in said newspaper on the following consecutive issues:

1st Insertion	<u>December 24</u>	19 <u>98</u>
2nd Insertion		19
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19th Insertion		19
20th Insertion		19
21st Insertion		19
22nd Insertion		19

PRINTER'S FEE 151.50

TRIBUNE PUBLISHING COMPANY

By Kendy Trumble

Subscribed and sworn to before me this 29th day of

DECEMBER, 19 98

Notary Public

My Commission Expires May 20, 2002

MISSOURI AIR CONSERVATION COMMISSION WILL HOLD PUBLIC HEARING

Jefferson City, MO-- The Missouri Air Conservation Commission will hold a public hearing on Gasoline Oxygen Content Requirements for the St. Louis area, the Restriction of Emission of Odors (related to Class I Concentrated Animal Feeding Operations), and other issues on Thursday, February 4, 1999. The Public Hearing will begin at 9 a.m. at the Truman State Office Building, Room 492, 301 West High Street, Jefferson City, MO.

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On February 4, 1999 the commission will hear testimony related to the following rule actions.

- 10 CSR 10-2.070 (amendment) Restriction of Emission of Odors. This proposed amendment removes the current odor emission exemption for Class IA concentrated animal feeding operations and requires preparation and implementation of an odor control plan at each facility. It also restricts the emission of odorous matter from Class IA concentrated animal feeding operations.
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- 10 CSR 10-5.160 (amendment) Control of Odors in the Ambient Air

This proposed amendment removes the current odor emission exemption for Class IA concentrated animal feeding operations and requires preparation and implementation of an odor control plan at each facility. It also restricts the emission of odorous matter from Class IA concentrated animal feeding operations.

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This proposed rule establishes emission limits for existing hospital, medical, and infectious waste incinerators. The pollutants regulated include metals, particulate matter, acid gases, organic compounds, carbon monoxide, and opacity. This proposed rule includes requirements for operator training and qualification, waste management, compliance and performance testing, monitoring, and reporting/ recordkeeping.

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This proposed amendment adopts regulations incorporating NOx federal rulemaking codified in 40 CFR part 76, requiring Phase I and II sources to file NOx permit applications with the state.

The above document will be available for review at the following lo-

RYAN W. PARKS
Notary Public - Notary Seal
STATE OF MISSOURI
Boone County
My Commission Expires: May 20, 2002

AFFIDAVIT OF PUBLICATION

STATE OF MISSOURI)

County of Boone) ss.

1. Randy Smith being duly sworn according to law, state that I am one of the publishers of the Columbia Daily Tribune, a daily newspaper of general circulation in the County of Boone where located; which has been admitted to the Post Office as second class matter in the City of Columbia, Missouri, the city of publication; which newspaper has been published regularly and consecutively for a period of three years and has a list of bona fide subscribers voluntarily engaged as such who have paid or agreed to pay a stated price for a subscription for a definite period of time, and that such newspaper has complied with the provision of Section 493.050, Revised Statutes of Missouri, 1949. The affixed notice appeared in said newspaper on the following consecutive issues:

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20th Insertion		19
21st Insertion		19
22nd Insertion		19

PRINTER'S FEE 151.5

TRIBUNE PUBLISHING COMPANY

By Randy Smith
JSC

Subscribed and sworn to before me this _____ day of

JANUARY 19 99

[Signature]
Notary Public

My Commission Expires MAY 20 2002

130

RYAN W. PARRIS
 Notary Public - Notary Seal
 STATE OF MISSOURI
 Boone County
 My Commission Expires: May 20, 2002

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Don't pay to find work before you get the job. For free information about avoiding employment service scams, write the Federal Trade Commission at Washington, D.C. 20580 or call the National Fraud Information Center, 1-800-876-7060.

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INSERTION DATE: December 24, 1998.

**BEFORE THE
MISSOURI DEPARTMENT OF NATURAL RESOURCES'
AIR CONSERVATION COMMISSION**

PUBLIC HEARING

- * **10 CSR 10-5.220 (amendment) control of Petroleum Liquid, Storage, Loading and Transfer**
- * **State Plan for Implementing the Hospital, Medical, Infectious Waste Incinerator Emission Guidelines**

COPY

March 25, 1999

**Concannon
& Jaeger
General
Court
Reporters**

705 Olive Street • Suite 604
St. Louis, Missouri 63101
(314) 421-1000

1 MISSOURI DEPARTMENT OF NATURAL RESOURCES'
 2 AIR CONSERVATION COMMISSION, produced, sworn
 3 and examined on March 25, 1999, between 8:00
 4 a.m. and 6:00 p.m. of that day, at the
 5 Holiday Inn Select, 4221 S. Outer Road, St.
 6 Peters, Missouri, before Kelley J. Tomazzoli,
 7 a Notary Public within and for the State of
 8 Missouri, in a certain cause now pending
 9 before the Missouri Department of Natural
 10 Resources' Air Conservation Commission.

11 A P P E A R A N C E S

12 COMMISSIONERS PRESENT:

13 Chairman Barry Kayes
 14 Commissioner Bill Thomas
 15 Commissioner Harriet Beard
 16 Commissioner David Zimmerman
 17 Commissioner Michael Foresman

18 Witnesses addressing Commissioners are as
 19 follows:

20	Mr. Roger Randolph	Page	4
21	Mr. Haskins Hobson		6
22	Ms. Melissa Hart		18
23	Mr. Paul Myers		26
24	Mr. Paul Guptill		38

1 the way the gasoline station is done. They
2 have liquid and vapor lines that go from the
3 dispenser all of the way back to the tanks.

4 COMMISSIONER FORESMAN: Okay. Thank
5 you.

6 CHAIRMAN KAYES: Thank you, Melissa.
7 I think that's all.

8 We'll hear from Paul Myers on the
9 state plan for implementing the hospital,
10 medical, infectious waste incinerator
11 emissions guidelines.

12 (Mr. Paul Myers was sworn.)

13 MR. MYERS: Good morning,
14 Commissioners. My name is Paul Myers. I'm an
15 Environmental Specialist with the Air
16 Pollution control program at 205 Jefferson
17 Street, Jefferson City, Missouri.

18 CHAIRMAN KAYES: Can you hear Paul
19 in the back of the room? Okay. Good.

20 MR. MYERS: Today I'll be presenting
21 the department's submission to the
22 Environmental Protection Agency concerning
23 Hospital, Medical, Infectious Waste
24 Incinerator Emission Guidelines. This begins
25 on page 110 of your briefing document.

1 On September 15, 1997 the
2 Environmental Protection Agency adopted New
3 Source Performance Standards for new
4 Hospital, Medical, Infectious Waste
5 Incinerators and Emission Guidelines for
6 existing incinerators. The new Source
7 Performance Standards are codified in Title
8 40 CFR Part 60, subpart Ec, and the Emission
9 Guidelines are codified in Title 40 CFR Part
10 60, subpart Ce.

11 The Clean Air Act requires that
12 State regulatory agencies implement the
13 Emission Guidelines according to a State Plan
14 developed under sections 111(d) and 129 of
15 the Clean Air Act. State Plans are to be
16 submitted to EPA within one year after EPA's
17 promulgation of the Emission Guidelines.

18 State Plans must contain specific
19 information and the legal mechanisms
20 necessary to implement the Emission
21 Guidelines. Those are what I've listed on the
22 overhead.

23 Prior to submittal to EPA, the
24 State must make available to the public the
25 State Plan and provide opportunity for public

1 comment. The EPA then has 180 days to approve
2 or disapprove the State Plan. Plan approval
3 or disapproval will be published in the
4 Federal Register. If a Plan is disapproved,
5 EPA will state the reason for disapproval in
6 the Federal Register and give the State
7 opportunity to respond to EPA's concerns and
8 submit a revised Plan. A federal Plan will be
9 developed for each State that does not have
10 an approved Plan in place by September 15,
11 1999.

12 What I would like to do is go
13 through each of the requirements from
14 section 111(d) and 129 -- Demonstration of
15 legal authority and identification of
16 enforceable state mechanism. The Air
17 Conservation Commission of the State of
18 Missouri is the air pollution control agency
19 for the state.

20 The Commission was created to
21 maintain the purity of the air resources
22 of the state to protect the health,
23 general welfare and physical property of
24 the people, maximum employment and the full
25 industrial development of the state by

1 preventing, abating and controlling air
2 pollution by all practical and economically
3 feasible methods.

4 The Commission, more commonly
5 referred to as the Missouri Air Conservation
6 Commission, has the authority, pursuant to
7 chapter 536, Revised Statutes of Missouri, to
8 promulgate rules and regulations to establish
9 standards and guidelines to ensure that the
10 State of Missouri is in compliance with the
11 provisions of the Federal Clean Air Act. The
12 specific powers and duties of the Commission
13 are outlined in section 643.050, Revised
14 Statutes of Missouri.

15 The State of Missouri will use a
16 state rule as the legal instrument to enforce
17 the Emission Guidelines. The rule is 10 CSR
18 10-6.200 Hospital, Medical, Infectious Waste
19 Incinerators. This rule will apply to the
20 entire state. Rule 6.200 is before the
21 Commission for adoption earlier this morning.

22 Source Inventory of affected
23 Hospital, Medical, and Infectious Waste
24 Incinerators -- this is also found in your
25 briefing document on page 117. Source

1 inventory information was compiled from three
2 sources. The Air Pollution Control Program
3 maintains databases on a number of facilities
4 in the state. These databases contain
5 information gathered as a result of permit
6 applications and emission inventory
7 questionnaires. The databases were queried
8 for facilities having incinerators and then
9 checked for applicability with the emission
10 guidelines. A second source of information
11 came from questionnaires sent to hospitals
12 located within the state. A listing of
13 licensed or certified hospitals was obtained
14 from the Missouri Department of Health. Other
15 facilities believed to have an incinerator
16 were also sent a questionnaire.

17 The third source of information was
18 from regional or local agency, offices
19 located throughout the state. Several of
20 these offices provided a list of facilities
21 operating incinerators in their area.

22 The source inventory combines the
23 information gathered from these three
24 sources. Sources include, but are not limited
25 to, the inventory presented. Should another

1 source be discovered subsequent to this
2 notice, there will be no need to reopen the
3 State Plan.

4 The next thing we had to do was
5 complete an emission inventory of affected
6 hospital, medical, and infectious waste
7 incinerators. An emission inventory is
8 included on applicable incinerators.
9 Estimates of emissions for the emission
10 inventory came from emission factors found in
11 the Emission Guidelines and also AP-42. A few
12 facilities provided stack-sampling results
13 for their incinerators when responding to the
14 APCP questionnaire.

15 A calculation of the total yearly
16 waste throughput for each facility was used
17 in estimating emissions. Most facilities
18 supplied this information in responding to
19 the questionnaire. Nearly all facilities
20 that responded to the questionnaire indicated
21 that no emission controls have been placed on
22 their incinerators, therefore the
23 uncontrolled control level emission factors
24 were used. The total yearly waste throughput
25 was multiplied by the respective pollutant

1 emission factor to calculate total emissions.
2 The number is in pounds per year. This also
3 can be found on page 118 of your briefing
4 documents.

5 I'm now to the emission limits.
6 Rule 10 CSR 10-6.200 establishes emission
7 limits for all nine pollutants listed in the
8 Emission Guidelines. These pollutants are
9 particulate matter, carbon monoxide, cadmium,
10 lead, mercury, sulfur dioxide, hydrogen
11 chloride, dioxins/forans, and nitrogen
12 oxides. All of the limits are in units of
13 concentration. The emission limits are
14 identical to those listed in the Emission
15 Guidelines, including the emission limits for
16 small incinerators located more than 50 miles
17 from a standard metropolitan statistical
18 area. The emission and stack opacity limits
19 are found in section 3 of rule 10 CSR
20 10-6.200.

21 Compliance schedules -- all
22 applicable sources, whether identified in the
23 source inventory or not, are subject to the
24 State Plan and must be in compliance no later
25 than September 1, 2000.

1 Testing, monitoring, and inspection
2 requirements -- periodic performance tests
3 and monitoring of specific operating
4 parameters are required of applicable
5 incinerators. Facilities operating small
6 existing incinerators meeting the rural
7 criteria shall conduct annual equipment
8 inspections. Any necessary equipment repairs
9 shall be completed within 10 operating days
10 following an equipment inspection. Repairs
11 may be completed after 10 operating days
12 provided the facility receives written
13 permission and a date by which all repairs
14 are to be completed. These requirements are
15 found in section 3 of 10 CSR 10-6.200.

16 Reporting and record-keeping
17 requirements -- owners or operators of
18 incinerators shall include the reporting and
19 record-keeping requirements found in section
20 9 of rule 10 CSR 10-6.200.

21 Each facility must maintain records
22 of the performance test and specified
23 operating parameters for five years. The
24 facility must submit annual reports if it is
25 in compliance and semiannual reports if it

1 exceeds emission standards or operating
2 parameter limits.

3 Operator training and qualification
4 requirements -- incinerator operators shall
5 meet the requirements for operator training
6 and qualifications found in section 4 of rule
7 10 CSR 10-6.200.

8 Each facility is to have at least
9 one trained and qualified operator on duty or
10 on-call. The trained and qualified
11 incinerator operator must pass an incinerator
12 operator training course that meets the
13 requirements specified in the rule. Each
14 facility is to develop site-specific
15 information regarding incinerator operation.
16 Each employee involved in the operation of
17 the incinerator is to review the operating
18 information developed for the incinerator
19 each year.

20 Waste management plan -- each owner
21 or operator of an incinerator shall prepare a
22 waste management plan as listed in section 5
23 of rule 10 CSR 10-6.200. Waste management
24 plans are to identify the feasibility and
25 approach to separate certain components of

1 the solid waste stream from the health care
2 waste stream. Facilities are to consult an
3 ounce of prevention, "Waste Reduction
4 Strategies for Health Care Facilities," a
5 publication by the American Society for
6 Health Care Environmental Services, published
7 by the American Hospital Association,
8 Chicago, Illinois.

9 Public Hearing on state plan -- a
10 public hearing was held on February 4, 1999,
11 for rule 10 CSR 10-6.200. Public comment was
12 received on the rule and any changes to the
13 rule are to be presented to the Commission
14 for adoption later this morning. The rule,
15 if adopted, shall become effective on July of
16 1999. Notice of the public hearing for the
17 rule, and for this state plan, was published
18 in major newspapers across the state at least
19 30 days before the meeting.

20 State progress reports to EPA -- an
21 annual report is to be submitted to EPA on
22 the progress implementing the Emission
23 Guidelines. Progress reports will include
24 compliance status, enforcement actions,
25 increments of progress, identification of

1 sources that have shut down or started
2 operation, emission inventory information for
3 sources that have started operation, and
4 copies of technical reports on all
5 performance testing and monitoring, including
6 concurrent process data.

7 Title V permit applications --
8 incinerators located with major sources
9 should already be identified as an emission
10 unit in their permit application. If a permit
11 has been issued and if there are three or
12 more years remaining on the permit term, then
13 the permit needs to be revised to incorporate
14 the applicable requirements for the
15 incinerator rule. If there are less than
16 three years remaining on the permit term,
17 then the permit does not need to be revised
18 to include the rule's applicable requirements
19 until permit renewal. The source shall be
20 subject to the applicable requirements, even
21 though the requirements are not yet contained
22 in the permit. Incinerators not located with
23 major sources and subject to the applicable
24 requirements of the incinerator rule, shall
25 complete and submit a Title V permit

1 application to the permitting authority no
2 later than 36 months after promulgation of
3 the incinerator rule.

4 Co-fired combustors and
5 incinerators burning only pathological,
6 low-level radioactive, and chemotherapeutic
7 waste are exempt for the emission limits and
8 are not required to obtain a Title V permit.
9 These facilities should indicate in their
10 exemption claim that the incinerator is not
11 subject to Title V.

12 Final compliance date -- all
13 applicable sources, whether identified in the
14 source inventory or not, are subject to the
15 State Plan and must be in compliance no later
16 than September 1, 2000.

17 This concludes my presentation.

18 CHAIRMAN KAYES: Do we have some
19 questions?

20 COMMISSIONER BEARD: I do. The small
21 hospitals around the state, do most of them
22 just not burn the things that are required to
23 be registered, or do some of them send to
24 some of these registered incinerators?

25 MR. MYERS: The majority of them

1
2
3 BEFORE THE MISSOURI AIR CONSERVATION COMMISSION
4 STATE OF MISSOURI

5 IN RE: 10 CSR 10-6.270
6 10 CSR 10-6.200

7
8 Public Hearing
9 February 4, 1999
10 Harry S Truman State Office Building
11 Room 492
12 Jefferson City, Missouri

13
14 BEFORE: Barry Kayes, Chairman
15 Michael Foresman, Commissioner
16 Harriet Beard, Commissioner
17 Bill Thomas, Commissioner
18 Andy Farmer, Commissioner
19 David Zimmerman, Commissioner

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CONTROL PGM

20
21 REPORTED BY:
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I N D E X

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1 operating permit rule the specific parts of the acid
2 rain program are not specified. Amending Rule 6.270
3 serves to clarify in one rule the permit requirements
4 for acid rain sources and allows the Air Program to
5 perform a complete permit review.

6 This concludes my testimony.

7 CHAIRMAN KAYES: Thank you. Does anyone
8 wish to speak this issue?

9 Okay. Can we go on then?

10 Paul, I think you're going to present. Gee,
11 you've got a busy day, don't you?

12 Rule 10 CSR 10-6.200, Hospital, Medical and
13 Infectious Waste Incinerators.

14 MR. MYERS: Thank you.

15 I will now be presenting testimony for a new
16 Rule 10 CSR 10-6.200 titled Hospital, Medical,
17 Infectious Waste Incinerators. And this rule can be
18 found beginning on page 79 of your briefing document.

19 Medical waste incineration involves the
20 burning of waste produced by facilities such as
21 hospitals, veterinary facilities and medical research
22 facilities. These wastes include both infectious
23 waste, as well as non-infectious, general housekeeping
24 waste. Presently only a small percentage of hospitals
25 operate with any add-on air pollution control devices.

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1 Incinerators that do have pollution control devices
2 are generally limited to larger facilities or
3 commercial incinerators. Medical waste can contain
4 material that when incinerated results in significant
5 emissions of pollutants to the atmosphere. These
6 pollutants include such things as particulate matter,
7 metals, acid gases, nitrogen oxides and carbon
8 monoxide. Incomplete combustion within these
9 incinerators is probably the major cause of excess
10 emissions.

11 Back on June 20th, 1996, the United States
12 Environmental Protection Agency had added subpart Ce
13 to 40 CFR part 60. Subpart Ce promulgated emission
14 guidelines and compliance schedules for use by the
15 state in developing regulations to control emissions
16 from existing hospital, medical, infectious waste
17 incinerators. The guidelines required existing
18 incinerators to control emissions of air pollutants to
19 levels that reflect the degree of emission reduction
20 based on Maximum Achievable Control Technology. The
21 emission guidelines and this rule apply to each
22 existing incinerator for which construction commenced
23 on or before June 20th, 1996.

24 EPA expects that the air emission standards
25 and guidelines will reduce air emission from

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1 incinerators by 75 to 98 percent from current levels.
2 The standards and guidelines are expected to change
3 hospital waste disposal in that in order to meet the
4 emission limits, most existing incinerators will need
5 to install add-on air pollution control systems called
6 scrubbers. A few smaller facilities may be able to
7 meet emission limits through good combustion
8 practices, but even that might require upgrades in
9 equipment.

10 Affected incinerators are divided into
11 three subcategories based upon waste-burning capacity:
12 small being less than or equal to 200 pounds per hour,
13 medium being from 200 to 500 pounds per hour, and
14 large being greater than 500 pounds per hour.
15 Separate emission limits apply to each subcategory.

16 There is also a less stringent emission
17 limit for small rural incinerators that are located
18 more than 50 miles from a standard metropolitan
19 statistical area and burn less than 2,000 pounds of
20 waste per week. The emission limits for these
21 categories can be found in Table 1 and Table 2 of the
22 rule found on pages 84 to 86 of your briefing manual.

23 The rule does not require the use of any
24 specific control technology in meeting these emission
25 limits. The decision of how to comply with the

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1 emission limits is left to the facility. However, the
2 emission limits established by EPA in the guidelines
3 and used in this rule do represent the control
4 achieved through good combustion for rural
5 incinerators and the use of wet scrubbers or dry
6 scrubbers for other categories.

7 All incinerators are subject to stack
8 testing of specified pollutants to initially determine
9 compliance with the emission limits. Small rural
10 incinerators do not have to test for as many
11 pollutants as the other categories. During the
12 initial performance testing, operating parameters will
13 be established that indicates compliance with the
14 emission limits. It is these operating parameters
15 that will be monitored during incinerator operation.
16 The operating parameters and frequency of measurement
17 are outlined in Table 4 beginning on page 93 of your
18 manual.

19 In addition, annual stack test emissions of
20 particulate matter, carbon monoxide and hydrogen
21 chloride will be required of all incinerators except
22 for the small rural facilities. The rural
23 incinerators will be required to conduct annual
24 equipment inspections instead of annual stack tests.

25 Proper operation of an incinerator is

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1 critical to maintaining incinerator efficiency and,
2 therefore, operator training is also a requirement of
3 this rule. Each operator must pass a minimum of
4 24 hours of training on various topics as described in
5 the rule to become qualified. To maintain that
6 qualification the operator shall pass an annual review
7 or refresher course of at least four hours. In
8 addition, site-specific information on the incinerator
9 and its operation must be developed and then updated
10 annually. Each operator is required to annually
11 review the operating information developed for that
12 incinerator.

13 Facilities are required to develop a waste
14 management plan. This waste management plan will be
15 used to determine whether recycling or a reuse program
16 could be implemented. Such a program could reduce the
17 amount of waste incinerated and reduce the amount of
18 toxic emissions from that incinerated waste.

19 There is also a recordkeeping and reporting
20 section. Records would need to be kept on the
21 initial and annual performance tests, monitoring of
22 site-specific operating parameters, inspections,
23 operator training and waste management plans. Reports
24 on this information will be submitted to the
25 department annually.

11

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1 Fiscal note information begins on page 102.
2 We have identified three State-run facilities that we
3 feel will be affected by this rule. The estimated
4 cost to them is shown in the public entity fiscal
5 note, as well as the costs to regional and local
6 agency offices for inspections and compliance checks.
7 We've identified 17 private entities that we feel will
8 be affected by this rule. Based on responses to a
9 survey sent to potentially affected facilities, an
10 estimate of the number of facilities that will comply
11 with the rule and those that will switch to other
12 forms of hospital waste disposal was calculated and
13 the estimated cost is shown on the private entity
14 fiscal note.

15 This rule, if adopted by the Commission,
16 will be sent to EPA for inclusion in the Missouri
17 State Implementation Plan. This rule will also be
18 part of the section 111(d) and 129 State plan for
19 incinerators that I will be presenting at the next
20 Commission meeting.

21 This concludes my testimony.

22 CHAIRMAN KAYES: Thank you, Paul.

23 Paul Guptill.

24 PAUL GUPTILL, having been sworn, testified as follows:

25 MR. GUPTILL: Good morning. My name is Paul

12

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**COMMENTS AND RESPONSES ON THE
STATE PLAN FOR IMPLEMENTING THE
HOSPITAL, MEDICAL, INFECTIOUS WASTE INCINERATOR
EMISSION GUIDELINES
AND
RECOMMENDATION FOR ADOPTION**

On March 25, 1999, the Missouri Air Conservation Commission held a public hearing concerning the Section 111(d)/129 State Plan for implementing the Hospital, Medical, Infectious Waste Incinerator Emission Guidelines for Missouri. The following is a summary of comments received and the Department of Natural Resources' corresponding responses. Any changes to the proposed state plan are identified in the responses to the comments.

The Air Pollution Control Program recommends the commission adopt the state plan as proposed.

SUMMARY OF COMMENT: The Air Pollution Control Program received one comment from the Missouri Hospital Association (MHA).

COMMENT: The third sentence in Section A of the state plan states that the Clean Air Act requires that State regulatory agencies implement the Emission Guidelines according to a State Plan developed under sections 111(d) and 129 of the Clean Air Act. Section 643.055, RSMo was specifically enacted into Missouri law for the commission to enact rules to comply with the Clean Air Act and, therefore, this statutory reference should be added to the state plan. It is recommended that one additional sentence be added to Section B, paragraph one. The new sentence identifies that the authority for this rule making is section 643.055 RSMo.

RESPONSE: The Missouri Court of Appeals Western District ruled in case number WD 47706 that section 643.055 does not give the Missouri Air Conservation Commission rulemaking authority, but instead places limitations on the commissions authority. The department feels that the citation to 643.050 RSMo as the statutory authority for this action is accurate. Therefore, no changes have been made to the state plan as a result of this comment.

**COMMENTS AND RESPONSES ON
PROPOSED RULE
10 CSR 10-6.200
HOSPITAL, MEDICAL, INFECTIOUS WASTE INCINERATORS
AND
RECOMMENDATION FOR ADOPTION**

On February 4, 1999, the Missouri Air Conservation Commission held a public hearing concerning the proposed rule 10 CSR 10-6.200 Hospital, Medical, Infectious Waste Incinerators. The following is a summary of comments received and the Department of Natural Resources' corresponding responses. Any changes to the proposed rule are identified in the responses to the comments.

The Air Pollution Control Program recommends the commission adopt the proposed rule as revised.

NOTE - Legend for rule actions to be voted on is as follows:

- * *Shaded Text - Rule sections or subsections unchanged from Public Hearing. This text is only for reference.*
 - * *Unshaded Text - Rule sections or subsections that are changed from the proposed text presented at the Public Hearing, as a result of comments received during the public comment period.*
-

**Title 10 - DEPARTMENT OF
NATURAL RESOURCES**

Division 10 - Air Conservation Commission

**Chapter 6 - Air Quality Standards, Definitions, Sampling and Reference Methods and Air
Pollution Control Regulations for the Entire State of Missouri**

ORDER OF RULEMAKING

By the authority vested in the Missouri Air Conservation Commission under section 643.050, RSMo Supp. 1998, the commission adopts a rule as follows:

10 CSR 10-6.200 is adopted.

A notice of proposed rulemaking containing the text of the proposed rule was published in the *Missouri Register* on January 4, 1999, (24 MoReg 25-40). Those sections with changes are reprinted here. This proposed rule becomes effective thirty days after publication in the *Code of State Regulations*.

SUMMARY OF COMMENT: The Air Pollution Control Program (APCP) received seven comments from three sources, the Environmental Protection Agency (EPA), the Missouri Hospital Association, and BFI Waste Systems of North America.

COMMENT: EPA commented that this rule incorporates the requirements for hospital, medical, and infectious waste incinerators found at 40 C.F.R. Part 60.50c. In paragraph 3(E)(9) of Missouri's rule (which corresponds to Part 60.56c(i)), MDNR incorporates provisions that allow the department the discretion to establish site-specific operating parameters for affected incinerators. However, the authority to establish site-specific operating parameters has not been delegated to the states (see 40 C.F.R. Part 60.50c(i)(1)). Therefore, the EPA requests that MDNR replace the term department with the term Administrator for paragraph 3(E)(9).

RESPONSE AND EXPLANATION OF CHANGE: The department agrees to change the word department to administrator. The authority to establish alternate operating parameters when using controls other than those listed in the rule shall be retained by the administrator and not transferred to the state. A change was made to paragraph (3)(E)9.

COMMENT: The Missouri Hospital Association (MHA) has comments on the terminology used in the proposed rule. The recommended terminology changes presented for your consideration have no impact on the emission level standards nor the operational expectations presented in the proposed rule. However, terminology in the proposed rule does highlight inconsistency in government in defining terms in a uniform manner. The inconsistency sometimes brings confusion both to the public and to the regulated community. Terminology specifically addressed in Attachment I includes: a hospital, an infectious waste incinerator, and hospital waste. It is recommended that a hospital be defined as it is defined by state statute, the incinerator being regulated be defined as an infectious waste incinerator and hospital waste be defined as what it is, a solid waste. Attempting to explain to others why state government is not uniform in terminology is a time consuming and vexing activity.

RESPONSE: The Department agrees that inconsistency in terminology can create some confusion. However, since this regulation will eventually affect facilities across the United States, it is also important to maintain consistency nationally. The rule will retain the current definitions. Therefore, no changes have been made to the rule as a result of this comment.

COMMENT: The Missouri Hospital Association (MHA) has comments on the compliance date of December 31, 1999, used in the proposed rule. If December 31, 1999, is used as a compliance date in the final Missouri rule, Missouri will have a final rule in effect without knowing whether EPA will require amendments to Missouri's state plan. Missouri's state plan tentatively is scheduled to be submitted to the U.S. EPA on July 30, 1999. EPA has six months to review and comment on the plan. The regulated community does not want to have a final state compliance date only to learn later that EPA requires Missouri to make amendments to the Missouri plan before EPA will grant approval. It is therefore recommended that the time frame wording utilized in the EPA final incinerator rule, on or before the date one year after EPA approval of

the state plan, be utilized as a substitute for the December 31, 1999, references in the proposed rule.

RESPONSE AND EXPLANATION OF CHANGE: We do anticipate that EPA will approve this rule and the state plan prior to the end of this year. Any possible amendments to the state plan or rule will be addressed as they come up. Tying the date of compliance to EPA's approval of the state plan leaves an element of uncertainty concerning compliance. We would prefer a firm compliance date rather than a floating date. Failure of the state to have facilities in compliance by September 2000 would result in a federal plan being promulgated for the state of Missouri. Instead of tying the compliance date to EPA approval or leaving it at its proposed date of December 31, 1999, we suggest a compromise date of September 1, 2000. This date of September 1, 2000, gives facilities more time to comply with the requirements and would more closely correspond to a date one year after EPA approval of our state plan. A change to the rule was made as a result of this comment.

COMMENT: The Missouri Hospital Association (MHA) has comments on the lack of incremental compliance in the proposed rule. EPA rule 40 CFR Part 60.39(c) authorizes states to permit facilities to phase in incinerator renovations and modifications as long as the facility meets measurable and enforceable state guidelines. It is recommended that Missouri incorporate this option in the final rule. The proposed rule before you does not address this option. Compliance with the proposed standards is time consuming and costly. In fact, the cost figures presented in the proposed rule's fiscal note, while substantial, are still far below actual implementation costs. Facilities that select the option to retrofit their equipment deserve the opportunity to utilize the incremental compliance option authorized by EPA.

RESPONSE: Incremental compliance was an option that the department considered, but rejected for the following reasons. EPA first promulgated the emission guidelines in September 1997. Potentially affected facilities have had since 1997 to prepare for eventual compliance. Medical waste incinerators have been unregulated since the state's Medical Waste and Solid Waste Incinerator rule was voided on March 29, 1993. Allowing incremental compliance could delay air pollution control devices being operational until September 2002. Therefore, no change was made to the proposed rule in this area.

COMMENT: The Missouri Hospital Association (MHA) has comments on the rulemaking authority used in the proposed rule. The existence of statutory authority and an accurate citation to that authority are essential parts of the rulemaking process. The Missouri Air Conservation Commission does have authority to publish the proposed rule; however, that statutory authority for this proposed rule is section 643.055 RSMo Supp. 1997 and not section 643.050, RSMo Supp. 1997. The proposed rule's introductory sentence specifically references that the commission's action on the rule will be submitted to EPA as part of Missouri's compliance with federal statutes. The section 643.055, RSMo Supp. 1997 authority is confirmed by the Missouri Court of Appeals Western District case number WD 47706. The MHA provided an attachment that contained specific rule citation recommendations for the four comments described above.

RESPONSE: We feel that the citation to statutory authority is accurate. The Missouri Court of Appeals Western District case number WD 47706 ruled that section 643.055 does not give the Missouri Air Conservation Commission rulemaking authority, but instead places limitations on the commission's authority. 643.050 is the correct statutory authority for promulgating this rule. Therefore, no changes have been made to the rule as a result of this comment.

COMMENT: BFI Waste Systems of North America supports the promulgation of the proposed regulations. We request that the Department, in its Section 111(d)/129(b)(2) plan submission to the U.S. EPA, raise the issue of typographical errors contained in 40 C.F.R. Sections 60.37e(d)(3) and 60.57c(d). We believe those sections should properly refer to for 75 percent of the operating hours per day [and] for 90 percent of the operating days Otherwise, rather than requiring that the monitoring data be recorded for 75% of each day for 9 out of 10 days --which was clearly the EPA's intention in drafting the provision--monitoring data would be required to recorded at least 75% of the time, in other words, the inclusion of the word and makes the rest of the sentence redundant. As written, the EPA language would essentially mandate that if the monitoring system fails or malfunctions, facilities must either correct the problem or shut down in 6 hours or less. This would effectively require the installation and maintenance of an entirely redundant data acquisition system to back up the primary system (including field instrumentation). The deletion of the word and would result in a requirement that complete data records be maintained for 18 hours per day (for continuous operation) for 90% of the operating days per quarter. We request that the Department specifically raise the issue in the State's Section 111(d)/129(b)(2) plan submission.

RESPONSE AND EXPLANATION OF CHANGE: The Department agrees with BFI's comment. In discussions with EPA, their intention with regard to monitoring is as BFI has commented. The department has changed paragraph (3)(F)4. and subparagraph (3)(F)5.C. as stated above.

10 CSR 10-6.200 Hospital, Medical, Infectious Waste Incinerators

(1)	Applicability
(A)	Except as provided in subsection (1)(B) through (H) of this rule, this rule applies to each individual Hospital or Medical/Infectious Waste Incinerator (HMIWI) for which construction was commenced on or before June 20, 1996.
(B)	A combustor is not subject to this rule during periods when only pathological waste, low-level radioactive waste, and/or chemotherapeutic waste is burned, provided the owner or operator of the combustor— <ol style="list-style-type: none"> 1. Notifies the director of an exemption claim; 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.
(C)	Any co-fired combustor is not subject to this rule if the owner or operator of the co-fired combustor— <ol style="list-style-type: none"> 1. Notifies the director of an exemption claim; 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.
(D)	Any combustor required to have a permit under Section 3005 of the Solid Waste Disposal Act is not subject to this rule.

Pursuant to 643.055 RSMo, the Missouri Air Conservation Commission has determined that this action is needed to have a U.S. Environmental Protection Agency approved State Implementation Plan.

- * State Plan for Implementing the Hospital, Medical, Infectious Waste Incinerator Emission Guidelines is hereby **ADOPTED** by the Missouri Air Conservation Commission this 29th day of April, 1999

Original signed by Commissioners:

Barry M Kayes

, Chairman

David C. Zimmermann

, Vice-Chairman

Michael R. Foresman

, Member

Harriet A. Beard

, Member

Andy Farmer

, Member

_____, Member

Pursuant to 643.055 RSMo, the Missouri Air Conservation Commission has determined that this action is needed to have a U.S. Environmental Protection Agency approved State Implementation Plan.

10 CSR 1 0-6.200 (new rule) Hospital, Medical, Infectious Waste Incinerators is hereby **ADOPTED** by the Missouri Air Conservation Commission this 25th day of March, 1999.

Original signed by Commissioners:	
Barry M Kayes	, Chairman
David C. Zimmermann	, Vice-Chairman
Michael R. Foresman	, Member
Harriet A. Beard	, Member
Bill Thomas	, Member
_____	, Member