

**SUBCHAPTER V: THERMAL CONTROL DEVICES**  
**§§106.491, 106.492, 106.494 - 106.496**  
**Effective July 19, 2018**

**§106.491. Dual-Chamber Incinerators.**

(a) Applicability. This section authorizes dual-chamber incinerators that burn only waste generated on site, or illegal drugs confiscated by federal, state, or local law enforcement agencies. Incinerators used in the processing or recovery of materials or to dispose of pathological waste as defined in §106.494 of this title (relating to Pathological Waste Incinerators), hospital waste, infectious waste, hazardous waste, or radioactive waste are not authorized by this section.

(b) Design requirements. The incinerator must meet the following design requirements.

(1) The incinerator must be equipped with an afterburner automatically controlled to operate with a minimum temperature of 1,400 degrees Fahrenheit, equipped with a continuous exhaust temperature monitor, and designed and operated with a minimum gas retention time of 0.5 seconds.

(2) The manufacturer's rated capacity (burn rate) must be 500 pounds per hour or less. Each claim under this section must address the model of incinerator and specify the types and amounts of waste to be destroyed for determination of a specific unit's appropriate capacity.

(3) Stacks must comply with the following:

(A) height at least 15 feet from the ground;

(B) height at least six feet above the peak of the highest structure within 150 feet;

(C) located at least 200 feet from nearest property line; and

(D) have unobstructed vertical discharge when the incinerator is operated. Properly installed and maintained spark arresters are not considered obstructions.

(c) Operational limits. The incinerator must meet the following operational conditions.

(1) This facility must be used solely for the disposal of waste materials generated on site and only one of the following:

(A) paper, wood, cardboard cartons, rags, garbage (animal and vegetable wastes as defined in Chapter 101 of this title (relating to General Air Quality Rules)), and combustible floor sweepings; containing overall not more than 10% treated papers, plastic, or rubber scraps. Plastics containing polyvinyl chloride or polyvinyl fluoride are prohibited. Neither garbage content nor moisture content may exceed 50% and noncombustible solids may not exceed 10% of total weight; or

(B) drugs confiscated by law enforcement, limited to marijuana, cocaine, opiates, and methamphetamines.

(2) The incinerator must be operated with the following limits:

(A) cocaine, opiates, and methamphetamines are limited to a burn rate of no more than four pounds per hour (lb/hr) and ten pounds in any eight-hour period. Emissions must not exceed 0.04 lb/hr for each of these compounds; and

(B) marijuana is limited to a burn rate of no more than 500 lb/hr. Emissions must not exceed 1.0 lb/hr total inhalable particulate matter (PM<sub>10</sub>).

(3) Fuel for the incinerator must be limited to sweet natural gas, liquid petroleum gas, Number 2 fuel oil with less than 0.5% sulfur by weight, or electric power. Products of fuel combustion (sulfur dioxide, nitrogen oxides, and carbon monoxide) and volatile organic compounds are authorized, if the facility is operated in compliance with this section.

(4) The manufacturer's recommended operating instructions must be posted at the incinerator, and the unit must be operated in accordance with these instructions. The incinerator must be operated in accordance with the manufacturer's specifications and maintained in good working order.

(5) Visible emissions must not exceed an opacity of 5.0% averaged over any six-minute period as determined by the United States Environmental Protection Agency Test Method 9.

(d) Compliance and administrative requirements.

(1) Registration. Before construction begins, the facility must be registered with the commission's Office of Permitting, Remediation, and Registration using Form PI-7, Registration for Permits by Rule.

(2) Waste regulations. Compliance with this section serves as a commission authorization under §330.51 of this title (relating to Permit Application for Municipal Solid Waste Facilities).

(3) State and federal air compliance demonstrations.

(A) Emission limits. Within 180 days of operation, all facilities processing confiscated drugs must provide sampling to demonstrate compliance with the emission limits of this section. Similar facility sampling may be used if the owner or operator provides documentation, including model number, burn rate, materials burned, and all relevant operating conditions, that demonstrates the previously-sampled incinerator is equivalent to the facility to be authorized under this section.

(B) Federal requirements. Registrations must address the applicability of 40 Code of Federal Regulations (CFR) Part 60, Standards of Performance for New Stationary Sources (NSPS), Subpart CCCC, Standards of Performance for Commercial and Industrial Solid Waste Incineration Units, for Which Construction Is Commenced After November 30, 1999 or for Which Modification or Reconstruction Is Commenced on or After June 1, 2001 (as published in the December 1, 2000 issue of the *Federal Register*); or 40 CFR Part 60, Subpart DDDD, Emission Guidelines and Compliance Times for Commercial and Industrial Solid Waste Incineration Units, that Commenced Construction On or Before November 30, 1999 (as published in the December 1, 2000 issue of the *Federal Register*). If determined to be applicable, commercial and industrial solid waste incinerators must demonstrate compliance with these federal regulations, including initial stack sampling, opacity readings, reporting, and recordkeeping.

(C) State air regulations. Upon the request of the executive director, a designated representative of the commission, or a local air pollution control agency having jurisdiction over the site, compliance with §111.121 and §111.125 of this title (relating to Single-, Dual-, and Multiple-Chamber Incinerators; and Testing Requirements) must be demonstrated.

(4) Monitoring. Incinerator operators/owners shall install, calibrate, maintain, and operate a monitoring device that continuously measures and records the temperature of the exhaust gas of the incinerator, in addition to any monitoring required by an appropriate NSPS subpart.

(5) Recordkeeping. Records must be kept of the type and amount of waste charged/burned; type and amount of fuel usage, including sulfur content for fuel oil; monitoring and testing results; hours of operation; and routine maintenance of abatement systems sufficient to demonstrate each of the requirements listed previously are met. Such records must be retained for a minimum rolling two-year period and comply with §106.8 of this title (relating to Recordkeeping).

Adopted June 9, 2004

Effective June 30, 2004

**§106.492. Flares.**

Smokeless gas flares which meet the following conditions of this section are permitted by rule:

(1) design requirements.

(A) The flare shall be equipped with a flare tip designed to provide good mixing with air, flame stability, and a tip velocity less than 60 feet per second (ft/sec) for gases having a lower heating value less than 1,000 British thermal units per cubic foot (Btu/ft<sup>3</sup>) or a tip velocity less than 400 ft/sec for gases having a lower heating value greater than 1,000 Btu/ft<sup>3</sup>.

(B) The flare shall be equipped with a continuously burning pilot or other automatic ignition system that assures gas ignition and provides immediate notification of appropriate personnel when the ignition system ceases to function. A gas flare which emits no more than 4.0 pounds per hour (lb/hr) of reduced sulfur compounds, excluding sulfur oxides, is exempted from the immediate notification requirement, provided the emission point height meets the requirements of §106.352(4) of this title (relating to Oil and Gas Production Facilities).

(C) A flare which burns gases containing more than 24 parts per million by volume (ppmv) of sulfur, chlorine, or compounds containing either element shall be located at least 1/4 mile from any recreational area or residence or other structure not occupied or used solely by the owner or operator of the flare or the owner of the property upon which the flare is located.

(D) The heat release of a flare which emits sulfur dioxide (SO<sub>2</sub>) or hydrogen chloride (HCl) shall be greater than or equal to the following values:

$$\text{For HCl} \quad Q = 2.73 \times 10^5 \times \text{HCl}$$

$$\text{For SO}_2 \quad Q = 0.53 \times 10^5 \times \text{SO}_2$$

Where  $Q$  = heat release, British thermal units per hour, based on lower heating value

HCl = HCl emission rate, lb/hr

SO<sub>2</sub> = SO<sub>2</sub> emission rate, lb/hr

(2) operational conditions.

(A) The flare shall burn a combustible mixture of gases containing only carbon, hydrogen, nitrogen, oxygen, sulfur, chlorine, or compounds derived from these elements. When the gas stream to be burned has a net or lower heating value of more than 200 Btu/ft<sup>3</sup> prior to the addition of air, it may be considered combustible.

(B) A flare which burns gases containing more than 24 ppmv of sulfur, chlorine, or compounds containing either element shall be registered with the commission's Office of Permitting, Remediation, and Registration in Austin using Form PI-7 prior to construction of a new flare or prior to the use of an existing flare for the new service.

(C) Under no circumstances shall liquids be burned in the flare.

Adopted August 9, 2000

Effective September 4, 2000

**§106.494. Non-commercial Incinerators and Crematories.**

(a) Definitions. The following words and terms, when used in this section, shall have the following meanings, unless the context clearly indicates otherwise.

(1) Pathological waste --This term is assigned the meaning as defined in 25 TAC §1.132 (relating to Definitions)

(2) Human remains (as defined in Texas Health and Safety Code, §711.001)--The body of decedent.

(3) Embryonic and fetal tissue remains--This term is assigned the meaning as defined in Texas Health and Safety Code, §697.002. The umbilical cord, placenta, gestational sac, blood, or body fluids from the same pregnancy may be disposed of in the same manner as embryonic and fetal tissue remains in accordance with Texas Health and Safety Code, §697.004.

(4) Carcasses--Dead animals, in whole or part.

(5) Crematory--A building or structure containing one or more furnaces used, or intended to be used, for the reduction (by burning) of human remains, and/or embryonic and fetal tissue remains to cremated remains.

(6) Animal feeding operations--A lot or facility (other than an aquatic animal feeding facility or veterinary facility) where animals are stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period, and

the animal confinement areas do not sustain crops, vegetation, forage growth, or post-harvest residues in the normal growing season.

(7) Non-commercial incinerator--An incinerator which does not accept pathological waste, embryonic and fetal tissue remains, or carcasses generated off-site for monetary compensation.

(8) Stack height--Elevation of the stack exit above the ground.

(b) Conditions of permit by rule. Crematories used for the cremation of human remains, embryonic and fetal tissue remains, and appropriate containers which meet the following conditions of this section are permitted by rule. Non-commercial incinerators used to dispose of pathological waste, embryonic and fetal tissue remains, and carcasses which meet the following conditions of this section are permitted by rule. Incinerators used in the recovery of materials are not covered by this section.

(1) Design requirements.

(A) The manufacturer's rated capacity (burn rate) shall be 200 pounds per hour (lbs/hr) or less.

(B) The incinerator shall be a dual-chamber design.

(C) Burners shall be located in each chamber, sized to manufacturer's specifications, and operated as necessary to maintain the minimum temperature requirements of subparagraphs (D) or (E) of this paragraph at all times when the unit is burning waste.

(D) Excluding crematories, the secondary chamber must be designed to maintain a temperature of 1,600 degrees Fahrenheit or more with a gas residence time of 1/2 second or more.

(E) In lieu of subparagraph (D) of this paragraph, incinerators at animal feeding operations that:

(i) are used to dispose of carcasses generated on-site;  
and

(ii) are located a minimum of 700 feet from the nearest property line, shall be designed to maintain a secondary chamber temperature of 1,400 degrees Fahrenheit or more with a gas residence time of 1/4 second or more. Alternatively, incinerators may be located in accordance with Table 494 of this clause, provided the total manufacturer's rated capacity (burn rate) of all units

located less than 700 feet from a property line shall not exceed 200 lb/hr. Setback distances shall be measured from the stack exit.

**Figure: 30 TAC §106.494(b)(1)(E)(ii)**

**Table 494**

Stack Height (feet)	Property Line Distance (feet) For 24-hour Operation	Property Line Distance (feet) For *Daytime-only Operation
8 or less	210	150
>8 and ≤ 12	200	140
>12 and ≤ 16	180	130
>16 and ≤ 20	160	110
> than 20	140	90

\*One hour after sunrise to one hour before sunset

(F) There shall be no obstructions to stack flow, such as by rain caps, unless such devices are designed to automatically open when the incinerator is operated. Properly installed and maintained spark arresters are not considered obstruction.

(2) Operational conditions.

(A) Before construction begins, the facility shall be registered with the commission using Form PI-7.

(B) The manufacturer's recommended operating instructions shall be posted at the unit and the unit shall be operated in accordance with these instructions.

(C) The opacity of emissions from the incinerator shall not exceed 5.0% averaged over a six-minute period.

(D) Heat shall be provided by the combustion of sweet natural gas, liquid petroleum gas, or Number 2 fuel oil with less than 0.3% sulfur by weight, or by electric power.

(E) Incinerators installed and operated in accordance with the conditions of this section shall not be used to dispose of any medical waste, other than pathological waste, embryonic and fetal tissue remains, and/or carcasses, as defined under subsection (a) of this section.

(F) Incinerators installed and operated in accordance with the conditions of this section shall also meet the requirements of §§111.121, 111.125, 111.127, and 111.129 of this title (relating to Single-, Dual-, and Multiple-Chamber Incinerators; Testing Requirements; Monitoring and Recordkeeping Requirements; and Operating Requirements).

(G) Crematories shall be used for the sole purpose of cremation of human remains, embryonic and fetal tissue remains, as well as the umbilical cord, placenta, gestational sac, blood, or body fluids in accordance with Texas Health and Safety Code, §697.004, and appropriate containers.

Adopted June 27, 2018

Effective July 19, 2018

#### **§106.495. Heat Cleaning Devices.**

Heat cleaning devices (such as ovens, furnaces, and/or direct flame incinerators) used to thermally remove residual combustible or semi-combustible materials from noncombustible electrical or mechanical parts are permitted by rule, provided the following conditions of this section are satisfied.

(1) Before construction begins, the facility shall be registered with the commission's Office of Permitting, Remediation, and Registration in Austin using Form PI-7.

(2) The combustible material shall not exceed 10% by weight of the total load to the oven, furnace, and/or incinerator.

(3) The combustible material shall contain no halogenated organic compounds.



(4) The oven, furnace, and/or incinerator shall be equipped with an afterburner automatically controlled to operate with a minimum temperature of 1,400 degrees Fahrenheit and a gas retention time of 0.5 second or greater.

(5) Opacity of emissions from the oven, furnace, and/or incinerator shall not exceed 5.0% averaged over a five-minute period.

(6) The manufacturer's recommended operating instructions shall be posted at each oven, furnace, and/or incinerator, and each unit shall be operated in accordance with these instructions.

(7) Heat shall be provided by the combustion of sweet natural gas, liquid petroleum gas, or Number 2 fuel oil with no more than 0.5% sulfur by weight, or by electric power.

(8) The emission of any air contaminant shall not exceed 0.5 pounds per hour and 2.0 tons per year.

Adopted August 9, 2000

Effective September 4, 2000

**§106.496. Air Curtain Incinerators.**

(a) Applicability. The commission encourages the recycling of the materials specified in this section. Composting, mulching, or other processing to produce a useable material can be authorized by §332.8 of this title (relating to Air Quality Requirements). This section authorizes any air curtain incinerator used for the burning of trees, clean lumber, and brush from land-clearing as referenced in 40 Code of Federal Regulations §60.2245, right-of-way maintenance, emergency clean-up operations, noncommercial industrial sites, and municipal solid waste sites, if operated in accordance with this section.

(b) Scope and terms. The following terms apply only to this section.

(1) Air curtain incinerator (ACI) - An incinerator that operates by forcefully projecting a curtain of air across an open chamber or pit in which combustion occurs. Incinerators of this type can be constructed above or below ground and with or without refractory walls and floor.

(2) Clean lumber - Wood or wood products that have been cut or shaped and includes wet, air-dried, and kiln-dried wood products. Clean lumber does not include wood products that have been painted, pigment-stained, or pressure-treated by compounds such as chromate, copper arsenate, pentachlorophenol, or creosote.

(3) Emergency cleanup - The removal and disposal of wastes resulting from events such as high winds, floods, and other events of nature that are necessary to protect public health and safety.

(4) Land-clearing - The removal of trees, brush, and other vegetative matter from agriculture, forest management, or land development.

(5) Municipal solid waste sites - Landfills that may burn on- or off-site generated waste as specifically authorized by the executive director under §330.4 of this title (relating to Permit Required).

(6) Noncommercial industrial sites - Locations at which on-site generated waste resulting from the processing or manufacturing of products may be burned. These industrial sites must be noncommercial, as limited by §335.2(d)(1) of this title (relating to Permit Required), and burn only on-site generated waste that results from the processing or manufacturing of products, and do not include sites that accept off-site generated waste for disposal or destruction.

(7) Site - One or more contiguous or adjacent properties that are under common control of the same person, or persons under common control.

(c) Operational limits.

(1) Distance limitations. The ACI must be operated at least 300 feet from the closest property line and any other facility with an air permit authorization under §116.110 of this title (relating to Applicability), or any ACI operating under this section.

(2) Facility locations. ACIs may not be operated at a given site more than the following.

(A) All facilities may operate up to a total of 600 hours in any rolling 12-month period.

(B) Portable facilities temporarily located at a site may operate up to 180 consecutive calendar days or 600 hours, whichever occurs first. The ACI must be removed from the site after ceasing operation.

(C) Permanent facilities may process materials for municipal solid waste or noncommercial industrial sites only.

(3) Daily operation.

(A) Daily burning must not commence earlier than one hour after sunrise.

(B) Burning must be completed on the same day, not later than one hour before sunset. At the end of the burn, embers must not be flaming or smoking, and no additional fuel may be added to the ACI.

(C) Material must not be added to the ACI in such a manner as to be stacked above the air curtain.

(D) An operator shall remain with the ACI at all times when it is operating.

(E) The ACI blower must remain on at the end of daily burning until enough material is consumed so that any remaining material in the trench does not flame or cause smoke that exceeds the requirement of this section when the blower is turned off.

(F) Material not being worked, and material being stockpiled to be burned at a later date, must be kept at least 75 feet from the trench or firebox.

(4) Visible emissions.

(A) Visible emissions from an ACI, stockpiles, work areas, and any in-plant roads associated with the facility must not leave the property for a period exceeding 30 seconds in any six-minute period as determined by United States Environmental Protection Agency Test Method 22.

(B) Best management practices must be used to ensure that the ACI blower is operated in a manner to minimize smoke and ash becoming airborne.

(5) Emissions from products of combustion. Products of combustion (sulfur dioxide, nitrogen oxides, and carbon monoxide) and volatile organic compounds are authorized if the facility is operated in compliance with this section.

(6) Compliance. Upon notification by a representative of the commission or any local air pollution control program having jurisdiction that the ACI is not complying with the conditions of this section, additional material must not be added to the ACI until the facility returns to compliance.

(d) Trench burning. An ACI operation using a trench and air manifold system must meet the following conditions.

(1) At all times, trench dimensions must not exceed 12 feet in width, 35 feet in length, and be no less than ten feet in depth, such that the combustion of the materials within the trench is maintained.

(2) The length of the trench must not exceed the length of the air blower manifold.

(3) The walls of the trench must be maintained such that they remain sufficiently vertical to maintain the air curtain.

(4) Upon removal of the ACI from the burn site, ash may be left in the trench, subject to the conditions of this section, and the trench must be completely filled with incombustible material and covered with soil.

(e) Firebox burning. An ACI operation using a manufactured aboveground container and blower system must meet the following requirements and operational limits.

(1) The interior dimensions of the firebox must not exceed eight feet in width, 35 feet in length, and be no less than six feet in depth.

(2) The walls of the ACI must be maintained such that they remain sufficiently vertical to maintain the air curtain and the combustion of the materials within the ACI.

(3) The air blower manifold length must be equal to the length of the burning area.

(4) Firebox facilities, which are equipped with refractory walls and above-fire air supply, may operate up to a total of 750 hours in any rolling 12-month period.

(f) Ash processing.

(1) Handling. All ash generated as a result of the operation of an ACI must be handled in accordance with the following requirements.

(A) Ash must be removed from the ACI during burning as necessary to maintain efficient combustion.

(B) Ash must be removed from the ACI in such a manner as to minimize the ash becoming airborne.

(C) All material removed from the ACI must be completely extinguished before being disposed of or placed in contact with combustible material, and must be stored in a manner that does not constitute a fire hazard or allow the material to smolder or burn outside of the ACI.

(2) Disposal. The ash generated from an ACI operated under this section must be disposed of by one of the following methods:

(A) buried on-site in an ACI trench, if deed recorded and a copy of the document is provided to the executive director as required by §330.7 of this title (relating to Deed Recordation);

(B) sent to a Type I landfill, if the ash is containerized and no hot coals are present; or

(C) beneficially used, if the use is determined to be acceptable by the executive director in accordance with §330.8 of this title (relating to Notification Requirements).

(g) Other requirements.

(1) Local restrictions. This section does not exempt ACIs from any local government regulations or other local government requirements, permits, registrations, or other authorizations required by local authorities.

(2) State air regulations. This section does not exempt ACIs from compliance with any additional state air regulations.

(3) Federal air requirements. Registrations for permanent ACIs must address the applicability of 40 Code of Federal Regulations (CFR) Part 60, Subpart CCCC, Standards of Performance for Commercial and Industrial Solid Waste Incineration Units for Which Construction Is Commenced After November 30, 1999 or for Which Modification or Reconstruction Is Commenced on or After June 1, 2001 (as published in the December 1, 2000 issue of the *Federal Register*). If determined to be applicable, commercial and industrial solid waste incinerators must demonstrate compliance with this federal regulation, including initial stack sampling, opacity readings, reporting, and recordkeeping.

(4) State waste regulations.

(A) Landfill sites:

(i) ACIs located at a landfill require separate authorization by the executive director in accordance with §330.4 of this title (relating to Permit Required); and

(ii) below-ground ACIs must be located in undisturbed soil not previously excavated, built up, compacted, or used in any type of active landfill operation.

(B) Ash disposal. For materials authorized to be burned under this section and the resulting ash from ACIs, categorized as municipal solid waste as defined in §330.2 of this title (relating to Definitions), compliance with this section serves as a commission authorization to store, process, remove, and/or dispose of the ash resulting from the operation of ACIs as required by §330.4(a) of this title.

(5) State water regulations. Nothing in this section removes the responsibility of the owner/operator from obtaining any necessary authorization under Chapter 308 of this title (relating to Criteria and Standards for the National Pollutant Discharge Elimination System).

(h) Administrative.

(1) Multiple locations at a single site. Multiple ACIs at a given site may be combined into a single registration if individual ACI locations at the site are in compliance with all design requirements and operating restrictions. Operations for all ACIs under common control at a given site must cumulatively meet the annual hourly limitations as listed.

(2) Registration.

(A) ACIs must be initially registered with the executive director using the Core Data Form and Form PI-7.

(B) Re-registration is required when any notice of enforcement is issued by the commission, or delegated representative, to the owner or operator of an ACI facility or every five years, whichever occurs first.

(C) Any ACI used for emergency clean-up operations does not require registration, but the owner or operator shall meet the notification requirements of this section except for the 14-day prior notice requirement.

(D) Registration reviews will include site approval and a compliance history evaluation in accordance with Chapter 60 of this title (relating to Compliance History).

(3) Notification. Notifications are not subject to the requirements of §106.50 of this title (relating to Registration Fees for Permits by Rule) or Chapter 60 of this title.

(A) The owner or operator of an ACI that has previously been registered with the executive director in accordance with this section and is being relocated to a new site, other than a landfill, shall notify the appropriate regional office and any local air pollution control agency having jurisdiction over the site.

(B) Notifications must be in writing using the Regional Standard Permit/Permit by Rule Relocation Form, include a return receipt, and be received by the regional director and any local air pollution control agency having jurisdiction over the site at least 14 calendar days prior to locating at the site.

(4) Records. To demonstrate compliance with this section and §106.8 of this title (relating to Recordkeeping), owners or operators of ACIs shall, at a minimum, meet the following requirements.

(A) The ACI must be equipped with a run time meter. A written record or log of the hours of operation of the ACI must be maintained at the site and made available at the request of personnel from the commission or any air pollution control program having jurisdiction. This run time record or log must be organized such that compliance with the requirements of this section can be readily determined.

(B) Records must be kept to demonstrate compliance with all operational or location requirements of this section. These records must include a copy of the return receipt demonstrating notification to the appropriate regional office and local air pollution control programs having jurisdiction, and plot plans showing distance limits are met. For portable facilities, once relocated to a new site, records must be maintained at a central location for a two-year rolling period.

(C) A copy of this section and any operating instructions must be kept at the burn site, followed by owners or operators, and made available at the request of personnel from the commission or any local air pollution control program having jurisdiction.

(D) The ACI must be clearly and permanently marked with the regulated entity (preferred) or account identification number on the fan manifold or aboveground unit.

Adopted June 9, 2004

Effective June 30, 2004