

SUBCHAPTER X: WASTE PROCESSES AND REMEDIATION
§§106.531 - 106.534
Effective March 23, 2006

§106.531. Sewage Treatment Facility.

Sewage treatment facilities, excluding combustion or incineration equipment, land farms, or grease trap waste handling or treatment facilities are permitted by rule.

Adopted August 9, 2000

Effective September 4, 2000

§106.532. Water and Wastewater Treatment.

Water and wastewater treatment units are permitted by rule, provided the following conditions of this section are met.

(1) The facility performs only the following functions:

- (A) disinfection;
- (B) softening;
- (C) filtration;
- (D) flocculation;
- (E) stabilization;
- (F) taste and odor control;
- (G) clarification;
- (H) carbonation;
- (I) sedimentation;
- (J) neutralization;
- (K) chlorine removal;

(L) activated sludge treatment, anaerobic treatment, and associated control of gases from these treatments;

(M) aerobic oxidation/biodegradation using oxygen or peroxide in the absence of nitrogen or other gas that would cause stripping of volatile organic compounds (VOC) from the water;

(N) stripping VOC, ammonia, or other air contaminants from the water with air or other gas, provided the stripped gases are controlled with an abatement system that meets the requirements of §106.533(5) of this title (relating to Water and Soil Remediation). For ammonia or hydrogen chloride (HCl) or other acid gas emissions, abatement may include a water or caustic scrubbing system as a means of complying with this section. Final emissions of HCl resulting from combustion of chlorine or chlorine-containing compounds shall not exceed 0.1 pounds per hour;

(O) liquid phase separation of VOC and water in which:

(i) the sum of the partial pressures of all species of VOC in any sample is less than 1.5 psia; or

(ii) the separator is enclosed and emissions are vented through an emission abatement system meeting the requirements specified previously for stripped VOC and ammonia;

(2) Chlorine or sulfur dioxide (SO₂) shall be used only in containers approved by the United States Department of Transportation and emissions of chlorine or SO₂ from treatment of water or decontamination of equipment at any water treatment plant shall not exceed ten tons per year.

(3) The following shall not be permitted by rule under this section:

(A) gas stripping or aeration facilities where VOC or other air contaminants are stripped from water directly to the atmosphere;

(B) disposal facilities using land surface treatment;

(C) surface facilities associated with injection wells;

(D) cooling towers in which VOC or other air contaminants may be stripped to the atmosphere.

Adopted August 9, 2000

Effective September 4, 2000

§106.533. Remediation.

(a) Applicability. Equipment used to extract, handle, process, condition, reclaim, or destroy contaminants for the purpose of remediation is permitted by rule, provided that all the following conditions of this section are satisfied.

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

(1) **Affected property** - The entire area, including on-site and off-site and including all environmental media, that contains releases of chemicals of concern.

(2) **Affected sources** - Include, but are not limited to, stockpiles of contaminated/remediated materials/soils and surface impoundments.

(3) **Dry cleaning compounds** - Include the following chlorinated and non-chlorinated dry cleaning solvents used in the cleaning of garments or other fabrics:

(A) perchloroethylene, also known as tetrachloroethylene, and its degradation products, including trichloroethylene, 1,2-dichloroethylene, and vinyl chloride;

(B) petroleum-based solvents such as Stoddard Solvent, naphtha, and other petroleum distillates;

(C) hydrocarbons and synthetic hydrocarbons such as DF-2000™ fluid, EcoSolv™, PureDry™, or the equivalent;

(D) silicone-based solvents containing decamethylcyclopentasiloxane; and

(E) other nonaqueous solvents such as carbon tetrachloride, dipropylene glycol tertiary butyl ether, 1,1,1-trichloroethane, and 1,1,2-trichloro-1,1,2-trifluoroethane.

(4) **Effects screening levels (ESLs)** - Values used by the commission to evaluate the potential for effects that may occur as a result of exposure to concentrations of constituents in the air. The ESLs are based on data concerning health effects, odor nuisance potential, effects with respect to vegetation, and corrosion effects. ESL updates, which are published periodically, were last revised October 1, 2003.

(5) **Facility** - A discrete or identifiable structure, device, item, equipment, or enclosure that constitutes or contains a stationary source. Once a remediation facility is at a site, all remediation equipment and related sources are covered by this section. Facilities include, but are not limited to, control devices, tanks, containers, liquid separators, material transfer systems, vacuum pumps, and associated components and connecting piping, but do not include below-ground pilot wells or well tests when no additional aboveground equipment is used. An extraction well used during a remediation project is considered a facility, not a well test.

(6) **Off-site receptor** - Any recreational area, residence, commercial/industrial facility, or other normally occupied structures not used solely by the owner or operator of the facilities or the owner of the site upon which the facilities are located. Measurements of distances to determine compliance with this distance restriction must be taken toward structures that are in use as of the date that a notification is filed with the commission.

(7) **Petroleum compounds** - Solids, liquids, or gases produced from natural formations of crude oil, tar sands, shale, coal, and natural gas; or refinery fuel products (which may contain additives).

(8) **Remediation** - An act or process taken to reduce or eliminate contaminants in the environment. This process may include, but is not limited to, assessment or treatment activities such as air, soil, or water sampling, or pilot tests, treatment, or post-clean-up activities that use facilities.

(c) General requirements. The following general requirements apply to this section.

(1) **Applicability.** This section covers only remediation performed at the affected property on a given site where the original contamination occurred, or at a nearby site secondarily affected by the contamination. This section does not cover any treatment facility where materials are brought in from another site or facilities unrelated to remediation. Such treatment facilities are subject to §116.110 of this title (relating to Applicability) and must obtain an air new source review permit.

(2) **Contaminants.** The identification of the contaminants at a site must be accomplished using the methodology specified by the applicable remediation program and the United States Environmental Protection Agency (EPA) or commission-approved method.

(3) **Controls.** The selection of appropriate equipment for remediation, at a minimum, must meet the methodology approved by the applicable remediation program (e.g., Petroleum Storage Tank (PST) Program, Voluntary Cleanup Program, Superfund, etc.). Use of any control device may be discontinued when the influent concentrations show that the facility can meet the appropriate emission limits without controls.

(4) **Elevated vents.** The height of any vents associated with the remediation must be at least ten feet above ground level.

(5) **Multiple facilities at a site.** There may be multiple remediation facilities at a site. However, each remediation facility must be separated from all other remediation facilities by a distance of at least 100 feet. Any individual facilities not separated by this distance must be combined and treated as a single facility for purposes of meeting the conditions of this section.

(6) **Nuisance.** The handling, processing, and stockpiling of any materials associated with facilities under this section must not cause a nuisance as defined in §101.4 of this title (relating to Nuisance).

(7) **Operations.** Wherever this section specifies that an action be performed periodically (e.g., weekly), the requirement applies only when the equipment is in operation for that period.

(8) **Spills.** Air emissions resulting from emergency containment and removal of soil or water from spills must comply with Chapter 101 of this title (relating to General Air Quality Rules) and are not authorized by this section.

(9) Visible emissions. Compliance with this requirement will be determined by use of EPA Test Method 22, found in 40 Code of Federal Regulations, Part 60, Appendix A, as published in the February 12, 1999 issue of the *Federal Register*. There will be no visible emissions leaving the site for a period exceeding 30 seconds in any six-minute period from the following operations:

- (A) handling, processing (screening, crushing, etc.), groundwater air stripping, and stockpiling of contaminated soil;
 - (B) handling, stockpiling, and in-situ chemical oxidation of groundwater and soils;
- and
- (C) conditioning (adding moisture) of remediated soil.

(d) Requirements for sites contaminated only with petroleum compounds. For the remediation of sites contaminated only with petroleum compounds, the following requirements must be met.

(1) For facilities with an off-site receptor within 100 feet:

(A) if a control device meeting the conditions of subsection (g) of this section is used, the total emissions from each facility must meet the following emission limits:

- (i) total petroleum hydrocarbons must not exceed 1.0 pound per hour (lb/hr);
- (ii) the benzene component must not exceed 0.1 lb/hr; and
- (iii) the hydrogen sulfide component (for non fuel-dispensing sites) must not exceed 0.1 lb/hr; and

(B) when a control device is not used, the total emissions from each facility must meet the following emission limits:

- (i) the total petroleum hydrocarbons must not exceed 0.1 lb/hr;
- (ii) the benzene component must not exceed 0.01 lb/hr; and
- (iii) the hydrogen sulfide component (for non fuel-dispensing sites) must not exceed 0.01 lb/hr.

(2) For facilities with equal to or greater than 100 feet to the nearest off-site receptor, emissions from all point sources are limited to the following:

- (A) total petroleum hydrocarbons are limited to 1.0 lb/hr;
- (B) the benzene component must meet the emissions and distance requirements of §106.262 of this title (relating to Facilities (Emission and Distance Limitations));

(C) the hydrogen sulfide component (for non fuel-dispensing sites) must meet the emissions and distance requirements of §106.262 of this title;

(3) For all sites regulated by this section to which the agency's PST remediation and/or reimbursement requirements are applicable, sampling and lab analysis of influent and effluent vapors must be performed at least monthly to demonstrate compliance with the control equipment efficiency and/or emission rate limits of this section, and with any related PST requirements, unless an alternative evaluation method is approved by the applicable agency remediation program.

(e) Requirements for sites contaminated only with dry cleaning compounds. For the remediation of sites contaminated only with dry cleaning compounds, the following requirements must be met.

(1) For facilities with an off-site receptor within 100 feet, emissions of each individual compound from each facility must meet the following emission limits:

(A) if a control device meeting the requirements of subsection (g) of this section is used, §106.261 of this title (relating to Facilities (Emission Limitations)) or §106.262 of this title (assuming 100 feet), whichever is more stringent;

(B) if a control device is not used, 10% of the values determined by subparagraph (A) of this paragraph;

(C) the maximum allowable emission rate limit for any individual compound must be 0.04 lb/hr, regardless of the control method unless §106.261 or §106.262 of this title specify a higher emission rate.

(2) For facilities with equal to or greater than 100 feet to the nearest off-site receptor, emissions of each individual compound from each facility must meet the emissions and distance requirements of §106.261 and §106.262 of this title. The maximum emission rate limit for any individual compound must be 0.04 lb/hr, regardless of the control method unless §106.261 or §106.262 of this title specify a higher emission rate.

(3) If a control device is needed to meet the emission limits of this section, only a carbon adsorption system (CAS) that meets the requirements of subsection (g) of this section may be used.

(4) Additional technical and administrative requirements for the remediation of dry cleaning sites may be found in Texas Health and Safety Code, §§374.001 - 374.253.

(f) Requirements for all other sites and affected properties. For the remediation of sites not covered by subsections (d) or (e) of this section, the following requirements must be met.

(1) The emission rates are limited to the following requirements.

(A) Hourly emissions of each individual organic and inorganic compound from each facility (other than products of combustion) must meet the most stringent of the following:

(i) §106.261 of this title;

(ii) §106.262 of this title; or

(iii) if not specifically listed in §106.262 of this title and is on the ESL list, effective October 1, 2003, with a short-term ESL for the compound of less than or equal to 100 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) but greater than or equal to $2 \mu\text{g}/\text{m}^3$, emissions may not exceed 0.04 lb/hr. If the short-term ESL for the compound is less than $2 \mu\text{g}/\text{m}^3$, emissions may not exceed 0.01 lb/hr.

(B) Total annual emissions of each organic or inorganic compound are limited to five tons per year for each facility.

(2) If a control device is needed to meet the emissions limits of this section, the device must satisfy the appropriate conditions listed under subsection (g) of this section.

(3) All emission points and area sources associated with each facility must be located at least 100 feet from any off-site receptor.

(g) Control devices. When a control device is used at a facility, the device must satisfy one of the following conditions. If a thermal control device is used, the products of fuel combustion (nitrogen oxides, sulfur dioxide, carbon monoxide, volatile organic compounds (VOC), or total inhalable particulate matter) are authorized if the facility is operated in compliance with this section, and all control devices must comply with applicable opacity restrictions in Chapter 111 of this title (relating to Control of Air Pollution from Visible Emissions and Particulate Matter).

(1) Direct-flame combustion. The vapors may be burned in a direct-flame combustion device (incinerator, furnace, boiler, heater, or other enclosed direct-flame device) that meets the following requirements.

(A) Design requirements. Each direct-flame combustion device must be automatically controlled to maintain a minimum temperature of 1,400 degrees Fahrenheit or higher in the combustion chamber (secondary chamber, if dual-chamber) and have a gas retention time of 0.5 second or greater.

(B) Operational restrictions. The temperature of the device must be maintained at a minimum of 1,400 degrees Fahrenheit.

(C) Compliance demonstrations. Continuous temperature monitors to record the temperature of the combustion chamber (secondary chamber, if dual-chamber) must be installed and maintained. Records of temperature data must be maintained.

(2) Flare. The vapors may be burned in a flare that meets the following requirements.

(A) Design requirements.

(i) The flare must be equipped with a flare tip designed to provide good mixing with air, flame stability, and meet the most stringent of either §106.492 of this title (relating to Flares); or 40 Code of Federal Regulations (CFR) §60.18, General Control Device Requirements (as published in the October 17, 2000 issue of the *Federal Register*).

(ii) The flare must 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.

(B) Operational restrictions. Under no circumstances may liquids be burned in the flare.

(C) Compliance demonstrations. Visible emissions must not be permitted for more than five minutes in any two-hour period.

(3) Catalytic oxidizer. The vapors may be burned in a catalytic oxidizer that meets the following requirements.

(A) Design requirements. The design destruction efficiency of the catalytic oxidizer must be at least 90% for the contaminants at the site.

(B) Operational restrictions. The appropriate catalyst must be used depending on the type of contaminants in accordance with the manufacturer's guidelines.

(C) Compliance demonstrations. An evaluation of oxidizer effectiveness must be made initially (within two hours of startup), and at least weekly, using a portable flame ionization detection (FID) or photo-ionization detector (PID) in conjunction with a flow meter to determine the quantity of carbon compounds in the inlet and outlet of the catalytic oxidizer and to demonstrate compliance with the emission rate limits of this section. The FID or PID instrument chosen must be capable of properly detecting the types of contaminants present. Records of oxidizer effectiveness must be maintained.

(4) Internal combustion engine. The vapors may be burned in an internal combustion engine that meets the following requirements.

(A) Design requirements. The design destruction efficiency of the internal combustion engine must be at least 99% for the contaminants at the site.

(B) Operational restrictions. Chlorinated or sulfur compounds must not be burned in these facilities.

(C) Compliance demonstrations. An evaluation of engine effectiveness must be made initially (within two hours of startup) and at least weekly, using a PID or FID in conjunction with a flow meter to determine the quantity of carbon compounds in the inlet gas stream and the engine exhaust, and to demonstrate compliance with the emission rate limits of this section. The FID or PID

instrument chosen must be capable of properly detecting the types of contaminants present. Records of engine effectiveness must be maintained.

(5) CAS. The vapors may be routed through a CAS consisting of at least two activated carbon canisters that are connected in a series. The system must meet the following additional requirements.

(A) Design requirements. Prior to the use of a CAS at a site, there must be a demonstration that activated carbon is an appropriate choice for control of the contaminants at the site.

(B) Operational restrictions. The CAS must be operated to minimize breakthrough and maintain compliance with the emission limits of this section. When the VOC breakthrough is detected in the outlet of the initial canister, the waste gas flow must be switched to the second canister immediately. Within four hours of detection of breakthrough, a fresh canister must be placed as the new final polishing canister. Sufficient fresh activated carbon canisters must be maintained at the site to ensure fresh polishing canisters are installed within four hours of detection of breakthrough.

(C) Compliance demonstrations.

(i) The CAS must be sampled initially (within two hours of startup) and periodically to determine breakthrough. Breakthrough is defined as a measured VOC concentration of 100 parts per million by volume (ppmv) in the outlet of the initial canister. The sampling point must be at the outlet of the initial canister, but before the inlet to the second or final polishing canister. Sampling must be performed while venting maximum emissions to the CAS (e.g., during loading of tank trucks, during tank filling, during process venting). The CAS must be monitored on a weekly basis or 20% of the design carbon replacement interval, whichever is less.

(ii) An FID or PID instrument capable of properly detecting the types of contaminants present must be used for VOC sampling.

(iii) At dry cleaning remediation sites, additional sampling to determine total organics and speciated chlorinated compounds is required initially (within two hours of startup) and at least monthly.

(h) Fugitive emissions when no control device is used for remediation. In the cases where emission releases are not directly emitted from a control device or stack which can be sampled, compliance must be demonstrated by the use of a PID or FID initially and at least on a weekly basis. The FID or PID instrument chosen must be capable of properly detecting the types of contaminants present. Measurement should occur as close as possible to the remediation activity, but no further away than the nearest property line. The concentration measured must be equal to or less than the specific air contaminant's ESL. If an ESL is exceeded, remediation must cease until corrective action restores the concentration to below ESL values. The conversion from PID and FID devices to ESLs must use the following formula.

Figure: 30 TAC §106.533(h)

$$\mu\text{g}/\text{m}^3 = \{(\text{ppmv}) (\text{gram molecular weight of substance})\} / .02445$$

(i) Other regulatory requirements.

(1) Voluntary Cleanup Program. A state or local permit is not required for remediation conducted on a site as part of a voluntary cleanup. A voluntary cleanup must be coordinated with ongoing federal and state hazardous waste programs. The persons conducting a voluntary cleanup shall comply with any federal or state standard, requirement, criterion, or limitation that the remediation would otherwise be subject if a permit were required (see Texas Health and Safety Code, §361.611).

(2) Superfund Cleanup Program. A state or local permit is not required for remediation conducted on a site as part of a Superfund project. A Superfund project must be coordinated with ongoing federal and state hazardous waste programs. The persons conducting a cleanup shall comply with any federal or state standard, requirement, criterion, or limitation that the remediation would otherwise be subject if a permit were required (see Texas Health and Safety Code, §361.196).

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

(4) State regulations. This section does not exempt remediation equipment from any additional state regulations.

(5) Federal air regulations. Compliance with all applicable federal requirements must be satisfied, including air standards and requirements for hazardous air pollutants under 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants for Source Categories, Subpart GGGGG, National Emission Standards for Hazardous Air Pollutants: Site Remediation, effective October 8, 2003.

(j) Administrative requirements.

(1) Notification. Before starting remediation (pilot test or treatment), the owner or operator shall notify the commission in writing using the Standard Permit/Permit by Rule Relocation Form. Notifications for multiple sites that are part of the same affected property may be submitted at the same time in accordance with the following requirements.

(A) The notification is 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 (relating to Compliance History).

(B) Notifications must be sent to the appropriate commission regional office, any local air pollution control program having jurisdiction over the site, and appropriate remediation program. Notifications must include a return receipt of delivery.

(C) Pilot test notifications must be received by those listed in subparagraph (B) of this paragraph prior to commencement of activities.

(D) Updated or additional notification must be received by those listed in subparagraph (B) of this paragraph prior to commencement of treatment activities and must contain specific information concerning the basis (measured or calculated) for the expected emissions from the facility. The notification must also explain details as to why the control device can be expected to perform as represented.

(E) Any remediation project that changes or eliminates a represented control device during the lifetime of the project must update those listed in subparagraph (B) of this paragraph by filing an amended notification as soon as practicable after the change and after confirmation with the appropriate remediation program.

(2) Records. To demonstrate compliance with this section and with §106.8 of this title (relating to Recordkeeping), owners and operators of remediation equipment must, at a minimum, meet the following requirements.

(A) Records required by this section must be maintained at the site or at the nearest staffed location, and made available upon request to personnel from the commission or any local agency having jurisdiction over the site.

(B) The following minimum records of sampling or monitoring must be maintained:

- (i) sample time and date;
- (ii) monitoring results (ppmv);
- (iii) corrective action taken, including the time and date of the action;
- (iv) process operations occurring at the time of sampling;
- (v) records of compliance with the emission rate limits of this section;
- (vi) a record of the demonstration that the chosen control method is an appropriate choice for the site; and

(vii) a record of the return receipt demonstrating notification to the appropriate regional office, local air pollution control programs having jurisdiction over the site, and appropriate remediation program.

Adopted June 9, 2004

Effective June 30, 2004

§106.534. Municipal Solid Waste Landfills and Transfer Stations.

Municipal solid waste landfill (MSWLF) cell construction or modification, as defined in 40 Code of Federal Regulations (CFR) §60.751, of MSWLF Type I, Type I-AE, Type II, Type III, Type IV,

Type IV-AE, and Type V transfer stations as defined in §330.5 of this title (relating to Classification of Municipal Solid Waste Facilities) that meet the conditions listed in this section are permitted by rule.

(1) The following are not authorized by this section:

(A) MSWLF sites that have facilities other than cell construction and waste disposal; or

(B) maintenance, startup, shutdown, or emission excursions under Chapter 101, Subchapter F of this title (relating to Emissions Events and Scheduled Maintenance, Startup, and Shutdown Activities).

(2) The owner or operator must have obtained a valid permit or registration under §330.7 of this title (relating to Permit Required), for the site.

(3) The MSWLF or transfer station must have a design capacity of less than 2.5 million megagrams (Mg) by mass or 2.5 million cubic meters by volume.

(4) The MSWLF or transfer station must have a non-methane organic compound emission rate of less than 50 Mg per year as determined by United States Environmental Protection Agency (EPA) publication AP-42, Compilation of Air Pollutant Emission Factors.

(5) Emissions from the site are limited to 25 tons per year of volatile organic compounds or particulate matter. There are no short-term limitations for particulate matter and volatile organic compounds.

(6) Visible emissions from the site must not leave the property for a period exceeding 30 seconds in any six-minute period as determined by EPA Test Method 22, as found in 40 CFR Part 60, Appendix A.

(7) Transfer stations not located at an MSWLF site shall:

(A) operate in compliance with the Texas Solid Waste Disposal Act, and;

(B) be required to have the waste holding area covered by a ventilated building that has a minimum vertical exhaust vent located at least 16 feet above ground level with a capacity of 45,000 cubic feet per minute, if the facility retains over 1,000 tons of waste overnight.

(8) Facilities shall comply with applicable requirements of all federal regulations and state rules.