

Proposed date of adoption: December 15, 1989

For further information, please call: (512) 451-5711, ext. 354

## Subchapter E. Solvent-Using Processes

### Degreasing Processes

#### • 31 TAC §§115.412, 115.413, 115.415-115.417, 115.419

The Texas Air Control Board (TACB) proposes new §§115.412, 115.413, §§115.415-115.417, and §115.419, concerning degreasing processes, which contain the provisions of existing §§115.172-115.176, concerning specified solvent-using processes in Brazoria, Dallas, El Paso, Galveston, Gregg, Harris, Jefferson, Nueces, Orange, Tarrant, and Victoria Counties. This new undesignated head will be included in a proposed new Subchapter E, concerning solvent-using processes. While in most instances the proposal does not involve new requirements, the sections have been significantly reorganized to reduce the inconsistencies which have developed as a result of numerous independent revisions in the past. Several substantive changes, however, are also proposed in order to respond to the Environmental Protection Agency requirements of Phase I of the post-87 state implementation plan (SIP) revisions.

These changes are a part of a series of substantial proposed revisions to Chapter 115, concerning control of air pollution from volatile organic compounds. Since the proposed changes are extensive, the staff has determined that it would be administratively more efficient to propose concurrently the repeal of the existing Chapter 115 in its entirety and the addition of a new Chapter 115.

The proposed new §115.412, concerning control requirements, specifies the applicable equipment and procedural requirements. The proposed new §115.413, concerning alternate control requirements, provides for executive director approval for the use of alternate technology which will result in equivalent volatile organic compound (VOC) emission reductions. The proposed new §115.415, concerning testing requirements, identifies federally approved test methods and procedures to be used to determine compliance with applicable controls or exemptions. The proposed new §115.416, concerning recordkeeping requirements, specifies the type of records to be kept to document satisfaction of exemption criteria or performance of applicable control devices. The proposed new §115.417, concerning Exemptions, specifies the types of facilities which are exempted from the requirements of these sections. The proposed new §115.419, concerning counties and compliance schedules, requires all affected facilities to be in compliance in accordance with all expired and pending schedules. Furthermore, affected sources in Brazoria, El Paso, Galveston, Harris, Jefferson, and Orange Counties must comply with applicable recordkeeping requirements by December 31, 1990.

Bennie Engelke, director of management and staff services, has determined that for the first five years the proposed sections are in effect, there would be no fiscal implications for state and local governments or for small businesses. Economic costs for individuals and businesses required to implement the proposed measures are associated only with recordkeeping requirements and are estimated as follows: annual cost per facility for fiscal year 1990 will be \$0, and for fiscal years 1991-1994 will be \$5,000.

Les Montgomery, P.E., director of the Technical Support and Regulation Development Program, has determined that for each of the first five years the sections as proposed are in effect, the public benefit anticipated as a result of implementing the sections will be more effective and consistent enforcement associated with the control of VOC. In addition, these measures are necessary to address the requirements of Phase I of the post-87 SIP revisions.

Public hearings on this proposal are scheduled for the following times and places: August 15, 1989, 10 a.m., Texas Air Control Board Auditorium, 6330 Highway 290 East, Austin; August 15, 1989, 7 p.m., City of Houston Pollution Control Building Auditorium, 7411 Park Place Boulevard, Houston; August 16, 1989, 7 p.m., City Council Chambers, Second Floor, 2 Civic Center Plaza, El Paso; and August 17, 1989, 4 p.m., Arlington Public Library, 101 East Abram, Arlington.

Copies of the proposed sections are available at the central office of the TACB, 6330 Highway 290 East, Austin, Texas 78723, and at all TACB regional offices. Public comment, both oral and written, on the proposed changes is invited at the hearings. The TACB would appreciate receiving five copies of testimony prior to or at the hearings. Written testimony received by the Regulation Development Section by 4 p.m. on August 25, 1989, at the TACB central office will be included in the hearing record.

The new sections are proposed under Texas Civil Statutes, Article 4477-5, §3.09(a), which provide the TACB with the authority to make rules and regulations consistent with the general intent and purposes of the Texas Clean Air Act and to amend any rule or regulation the TACB makes.

**§115.412. Control Requirements.** For the counties referenced in §115.419 of this title (relating to Counties and Compliance Schedules), the following control requirements shall apply.

(1) No person shall own or operate a system utilizing a volatile organic compound for the cold cleaning of objects without the following controls.

(A) A cover shall be provided for each cleaner which shall be kept closed whenever parts are not being handled in the cleaner. The cover shall be designed for easy one-handed operation if any of the following exists:

(i) the true vapor pressure of the solvent is greater than 0.3 psia (2 kPa) as measured at 100°F (38°C);

(ii) the solvent is agitated;  
or  
(iii) the solvent is heated.

(B) An internal cleaned-parts drainage facility, for enclosed draining under a cover, shall be provided for all cold cleaners.

(C) A permanent label summarizing the operating requirements in paragraph (1)(F) of this section shall be attached to the cleaner in a conspicuous location near the operator.

(D) If a solvent spray is used, it must be a solid fluid stream (not a fine, atomized, or shower-type spray) and at an operating pressure of 10 psig or less as necessary to prevent splashing above the acceptable freeboard.

(E) The system shall be equipped with a freeboard that provides a ratio (the freeboard height divided by the degreaser width) equal to or greater than 0.7, or a water cover (solvent must be insoluble in and heavier than water).

(F) The operating procedures shall be as follows.

(i) Waste solvent shall not be disposed of or transferred to another party such that the waste solvent can evaporate into the atmosphere. Waste solvents shall be stored only in covered containers.

(ii) The degreaser cover shall be kept closed whenever parts are not being handled in the cleaner.

(iii) Parts shall be drained for at least 15 seconds or until dripping ceases.

(2) No person shall own or operate a system utilizing a volatile organic compound for the open-top vapor cleaning of objects without the following controls.

(A) a cover that can be opened and closed easily without disturbing the vapor zone;

(B) the following devices which will automatically shut off the sump heat:

(i) a condenser coolant flow sensor and thermostat which will detect if the condenser coolant is not circulating or if the condenser coolant temperature exceeds the solvent manufacturer's recommendations;

(ii) a solvent level sensor which will detect if the solvent level drops below acceptable design limits; and

(iii) a vapor level sensor which will detect if the vapor level rises above acceptable design limits.

(C) a spray safety switch which will shut off the spray pump to prevent spraying above the vapor level;

(D) one of the following controls:

(i) a freeboard that provides a ratio (the distance from the top of the vapor level to the top edge of the degreasing tank divided by the degreaser width) equal to or greater than 0.75 and, if the degreaser opening is greater than 10 ft<sup>2</sup> (1m<sup>2</sup>), a powered cover;

(ii) a properly sized refrigerated chiller capable of achieving 85% or greater control of volatile organic compound emissions;

(iii) an enclosed design where the cover or door opens only when the dry part is actually entering or exiting the degreaser; or

(iv) a carbon adsorption system with ventilation equal to or greater than 50 cfm/ft<sup>2</sup> (15m<sup>3</sup>/min per m<sup>2</sup>) of air/vapor area (with the cover open) and exhausting less than 25 ppm of solvent by volume averaged over one complete adsorption cycle.

(E) a permanent, conspicuous, label summarizing the operating procedures listed in paragraph (2)(F) of this section;

(F) the following operating procedures.

(i) the cover shall be closed at all times except when processing work loads through the degreaser;

(ii) parts shall be positioned so that complete drainage is obtained.

(iii) parts shall be moved in and out of the degreaser at less than 11 ft/min (3.3 m/min);

(iv) the work load shall be retained in the vapor zone at least 30 seconds or until condensation ceases;

(v) any pools of solvent on the cleaned parts shall be removed by tipping the part before withdrawing it from the vapor zone;

(vi) parts shall be allowed to dry within the degreaser freeboard area for at least 15 seconds or until visually dry;

(vii) porous or absorbent materials, such as cloth, leather, wood, or rope shall not be degreased;

(viii) work loads shall not occupy more than half of the degreaser open top surface area;

(ix) solvent shall not be sprayed above the vapor level;

(x) solvent leaks shall be repaired immediately, or the degreaser shall be shut down until repairs are made;

(xi) waste solvent shall not be disposed of or transferred to another party such that the waste solvent will evaporate into the atmosphere. Waste solvent shall be stored only in covered containers;

(xii) exhaust ventilation for systems other than those which vent to a major control device shall not exceed 65 cfm per ft<sup>2</sup> (20 m<sup>3</sup>/min per m<sup>2</sup>) of degreaser open area, unless necessary to meet Occupational Safety and Health Administration requirements or unless a carbon adsorption system is installed as a major control device. Ventilation fans or other sources of air agitation shall not be used near the degreaser opening;

(xiii) water shall not be visibly detectable in the solvent exiting the water separator;

(3) No person shall own or operate a system utilizing a volatile organic compound for the conveyorized cleaning of objects without the following controls:

(A) one of the following major control devices:

(i) a properly sized refrigerated chiller capable of achieving 85% or greater control of volatile organic emissions; or

(ii) a carbon adsorption system with ventilation equal to or greater than 50 cfm/ft<sup>2</sup> (15 m<sup>3</sup>/min/m<sup>2</sup>) of air/vapor area (when down-time covers are open) and exhausting less than 25 ppm of solvent by volume averaged over one complete adsorption cycle;

(B) a drying tunnel or other means such as rotating (tumbling) basket if space is available, to prevent solvent liquid or vapor carry-out;

(C) a condenser flow switch and thermostat which will shut off pump heat if the condenser coolant is not circulating or if the condenser coolant discharge temperature exceeds the solvent manufacturer's recommendation;

(D) a spray safety switch which will shut off the spray pump if the vapor level drops more than four inches (10 cm);

(E) a vapor level control thermostat which will shut off the sump heat when the vapor level rises above the designed operating level;

(F) entrances and exits which silhouette work loads so that the average clearance (between parts and edge of the degreaser opening) is either less than four inches (10 cm) or less than 10% of the width of the opening;

(G) down-time covers which close off the entrance and exit during non-operating hours;

(H) a permanent, conspicuous label near the operator summarizing the operating requirements in subparagraph (I) of this paragraph;

(I) the following operating procedures.

(i) Exhaust ventilation for systems other than those which vent to a major control device shall not exceed 65 cfm/ft<sup>2</sup> (20 m<sup>3</sup>/min/m<sup>2</sup>) of degreaser opening, unless necessary to meet Occupational Safety and Health Administration requirements or unless a carbon adsorption system is installed as a major control device. Ventilation fans shall not be used near the degreaser opening.

(ii) Parts shall be positioned so that complete drainage is obtained.

(iii) Vertical conveyor speed shall be maintained at less than 11 ft/min (3.3 m/min).

(iv) Waste solvent shall not be disposed of, or transferred to another party, such that the waste solvent can evaporate into the atmosphere. Waste solvent shall be stored only in covered containers.

(v) Leaks shall be repaired immediately or the degreaser shall be shut down until repairs are made.

(vi) Water shall not be visibly detectable in the solvent exiting the water separator.

(vii) Down-time covers shall be placed over entrances and exits of conveyorized degreasers immediately after the conveyor and exhaust are shut down and removed just before they are started up.

*§115.413. Alternate Control Requirements.* For all affected persons in the counties referenced in §115.419 of this title (relating to Counties and Compliance Schedules), alternate methods of demonstrating and documenting continuous compliance with the applicable control requirements or exemption criteria in this section may be approved by the executive director in accordance with §115.910 of this title (relating to Alternate Means of Control) if emission reductions are demonstrated to be substantially equivalent.

(1) An alternative capture and control system for cold solvent cleaners

with a demonstrated overall volatile organic compound emission reduction efficiency of 65% or greater may be used in lieu of the requirements of §115.412(1) of this title (relating to Control Requirements), if approved by the executive director.

(2) An alternate capture and control system for open-top vapor or conveyORIZED degreasers with a demonstrated overall volatile organic compound emission reduction efficiency of 85% or greater may be used in lieu of the requirements of §115.412(2)(D) or (3)(A) of this title (relating to Control Requirements), if approved by the executive director.

**§115.415. Testing Requirements.** For the counties referenced in §115.419 of this title (relating to Counties and Compliance Schedules), the following testing requirements shall apply.

(1) Compliance with §115.412(1) of this title (relating to Control Requirements) shall be determined by applying the following test methods, as applicable:

(A) determination of true vapor pressure using ASTM Test Method D323-82 for the measurement of Reid vapor pressure, adjusted for actual storage temperature in accordance with API Publication 2517, Third Edition, 1989; or

(B) modifications to these test methods and procedures approved by the executive director.

(2) Compliance with §115.412(2)(D)(iv) and (3)(A)(ii) of this title (relating to Control Requirements) and §115.413(2) of this title (relating to Alternate Control Requirements) shall be determined by applying the following test methods, as appropriate:

(A) Test Methods 1-4 (40 Code of Federal Regulations 60, Appendix A) for determining flow rates, as necessary;

(B) Test Method 18 (40 Code of Federal Regulations 60, Appendix A) for determining gaseous organic compound emissions by gas chromatography;

(C) Test Method 25 (40 Code of Federal Regulations 60, Appendix A) for determining total gaseous nonmethane organic emissions as carbon;

(D) Test Methods 25A or 25B (40 Code of Federal Regulations 60, Appendix A) for determining total gaseous organic concentrations using flame ionization or nondispersive infrared analysis; or

(E) modifications to these test methods and procedures approved by the executive director.

**§115.416. Recordkeeping Requirements.** For the counties referenced in §115.419 of this title (relating to Counties and Compliance Schedules), the owner or operator of any open-top vapor or conveyORIZED degreasing operation shall maintain the following records at the facility for at least two years and shall make such records available upon request to representatives of the Texas Air Control Board, United States Environmental Protection Agency, or the local air pollution control agency having jurisdiction in the area.

(1) a record of control equipment maintenance, such as replacement of the carbon in a carbon adsorption unit; and

(2) the results of all tests conducted at the facility in accordance with the requirements described in §115.415(a)(2) of this title (relating to Testing Requirements).

**§115.417. Exemptions.** For the counties referenced in §115.419 of this title (relating to Counties and Compliance Schedules), the following exemptions shall apply.

(1) Any cold solvent cleaning system is exempt from the provisions of §115.412(1)(B) of this title (relating to Control Requirements) and may use an external drainage facility in place of an internal type drainage system, if the true vapor pressure of the solvent is less than or equal to 0.6 psia (4.1 kPa) as measured at 100°F (38°C) or if a cleaned part cannot fit into an internal drainage facility.

(2) Any cold solvent cleaning system is exempt from the requirements of §115.412(1)(E) of this title (relating to Control Requirements), if the true vapor pressure of the solvent is less than or equal to 0.6 psia (4.1 kPa) as measured at 100°F (38°C), or if the solvent is not heated above 120°F (49°C).

(3) Degreasing operations located on any property in any affected counties except Dallas, Harris, and Tarrant which can emit, when uncontrolled, a combined weight of volatile organic compounds less than 550 pounds (249.5 kg) in any consecutive 24-hour period are exempt from the provisions of §115.412 of this title (relating to Control Requirements).

(4) Degreasing operations located on any property in Dallas, Harris, and Tarrant Counties which, when combined, would emit, when uncontrolled, a combined weight of volatile organic compounds less than three pounds (1.4 kg) in any consecutive 24-hour period are exempt from the provisions of §115.412 of this title (relating to Control Requirements).

(5) Any conveyORIZED degreaser with less than 20 ft<sup>2</sup> (2 m<sup>2</sup>) of air/vapor

interface is exempt from the requirement of §115.412(3)(A) of this title (relating to Control Requirements).

(6) Any open-top vapor degreaser with an open area less than 10 feet<sup>2</sup> (1 m<sup>2</sup>) is exempt from the refrigerated chiller or the carbon adsorber requirements in §115.412(2)(D)(ii) and (iv) of this title (relating to Control Requirements).

(7) An owner or operator who operates a remote reservoir cold solvent cleaner which uses solvent with a true vapor pressure equal to or less than 0.6 psia (4.1 kPa) measured at 100°F (38°C) and which has a drain area less than 16 in<sup>2</sup> (100 cm<sup>2</sup>) and who properly disposes of waste solvent in enclosed containers is exempt from §115.412(1) of this title (relating to Control Requirements).

(8) No degreasing operations located on any property shall be exempt from the requirements of §115.412 of this title (relating to Control Requirements) in accordance with the provisions of §115.419(3) of this title (relating to Counties and Compliance Schedules).

**§115.419. Counties and Compliance Schedules.** All affected persons in Brazoria, Dallas, El Paso, Galveston, Gregg, Harris, Jefferson, Nueces, Orange, Tarrant, and Victoria Counties shall be in compliance with this undesignated head (concerning degreasing processes) in accordance with the following schedules.

(1) All affected persons shall be in compliance with all compliance schedules which have expired prior to the effective date of the adoption of this section, in accordance with §115.930 of this title (relating to Compliance Dates).

(2) All affected persons shall be in compliance with the provisions of §115.416 of this title (relating to Recordkeeping Requirements):

(A) in Dallas and Tarrant Counties as soon as practicable but no later than August 31, 1990; and

(B) in Brazoria, El Paso, Galveston, Harris, Jefferson, and Orange Counties as soon as practicable but no later than December 31, 1990.

(3) All affected persons in Dallas and Tarrant Counties required to implement controls as a result of the loss of the exemption as specified in §115.417(8) of this title (relating to Exemptions) shall be in compliance as soon as practicable but no later than August 31, 1990.

This agency hereby certifies that the proposal has been reviewed by legal counsel and found to be within the agency's authority to adopt.

Issued in Austin, Texas on July 19, 1989.

Proposed date of adoption: December 15, 1989

For further information, please call: (512) 451-5711, ext. 354

## Surface Coating Processes

### • 31 TAC §§115.421-115.423, 115.425-115.427, 115.429

The Texas Air Control Board (TACB) proposes new §§115.421-115.423, 115.425-115.427, and 115.429, concerning surface coating processes, which contain the provisions of existing §§115.191-115.194, concerning surface coating processes in Brazoria, Dallas, El Paso, Galveston, Gregg, Harris, Jefferson, Nueces, Orange, Tarrant, and Victoria Counties. This new undesignated head will be included in a proposed new Subchapter E, concerning solvent-using processes. While in most instances the proposal does not involve new requirements, the sections have been significantly reorganized to reduce the inconsistencies which have developed as a result of numerous independent revisions in the past. Several substantive changes, however, are also proposed in order to respond to the Environmental Protection Agency requirements of Phase I of the post-87 state implementation plan (SIP) revisions.

These changes are a part of a series of substantial proposed revisions to Chapter 115, concerning control of air pollution from volatile organic compounds. Since the proposed changes are extensive, the staff has determined that it would be administratively more efficient to propose concurrently the repeal of the existing Chapter 115 in its entirety and the addition of a new Chapter 115.

The proposed new §115.421, concerning emission specifications, establishes emission limits for volatile organic compounds (VOC) from affected sources. The proposed new §115.422, concerning control requirements, specifies the applicable equipment and procedural requirements. The proposed new §115.423, concerning alternate control requirements, provides for executive director approval for the use of alternate technology which will result in equivalent VOC emission reductions. The proposed new §115.425, concerning testing requirements, identifies federally approved test methods and procedures to be used to determine compliance with applicable controls or exemptions. The proposed new §115.426, concerning recordkeeping requirements, specifies the type of records to be kept to document satisfaction of exemption criteria, coating formulation requirements, or performance of applicable control devices. The proposed new §115.427, concerning exemptions, specifies the types of facilities which are exempted from the requirements of these sections. This proposal will lower the exemption level in El Paso and Harris Counties to require small

surface coating operations emitting more than three pounds per hour or 15 pounds per day of VOC to use compliant coatings, if available. The proposed new §115.429, concerning counties and compliance schedules, requires all affected facilities to be in compliance in accordance with all expired and pending schedules. Furthermore, affected sources in Brazoria, El Paso, Galveston, Harris, Jefferson, and Orange Counties must comply with applicable recordkeeping requirements by December 31, 1990. Small surface coating operations in El Paso and Harris Counties required to implement controls must also be in compliance by December 31, 1990.

Bennie Engelke, director of management and staff Services, has determined that for the first five years the proposed sections are in effect, there will be no fiscal implications for state and local governments or for small businesses as a result of enforcing or administering the sections. Economic costs for individuals and businesses required to implement the proposed measures are associated only with recordkeeping requirements and are estimated as follows: annual cost per facility for fiscal year 1990 will be \$0, and for fiscal years 1991-1994 will be \$5,000.

Les Montgomery, P.E., director of Technical Support and Regulation Development Program, has determined that for each of the first five years the sections as proposed are in effect, the public benefit anticipated as a result of enforcing the sections will be more effective and consistent enforcement associated with the control of VOC. In addition, these measures are necessary to address the requirements of Phase I of the post-87 SIP revisions.

Public hearings on this proposal are scheduled for the following times and places: August 15, 1989, 10 a.m., Texas Air Control Board Auditorium, 6330 Highway 290 East, Austin; August 15, 1989, 7 p.m., City of Houston Pollution Control Building Auditorium, 7411 Park Place Boulevard, Houston; August 16, 1989, 7 p.m., City Council Chambers, Second Floor, 2 Civic Center Plaza, El Paso; and August 17, 1989, 4 p.m., Arlington Public Library, 101 East Abram, Arlington.

Copies of the proposed sections are available at the central office of the TACB, 6330 Highway 290 East, Austin, Texas 78723, and at all TACB regional offices. Public comment, both oral and written, on the proposed changes is invited at the hearings. The TACB would appreciate receiving five copies of testimony prior to or at the hearings. Written testimony received by the Regulation Development Section by 4 p.m. on August 25, 1989, at the TACB central office will be included in the hearing record.

The new sections are proposed under Texas Civil Statutes, Article 4477-5, §3.09(a), which provide the TACB with the authority to make rules and regulations consistent with the general intent and purposes of the Texas Clean Air Act and to amend any rule or regulation the TACB makes.

**§115.421. Emission Specifications.** No person in the counties referenced in §115.429 of this title (relating to Counties and Compliance Schedules) may cause, suffer, allow, or permit volatile organic compound (VOC) emissions from the surface coating processes as defined in §115.010 of this title (relating to Definitions) affected by paragraphs (1)-(11) of this section to exceed the specified emission limits. These limitations are based on the daily weighted average of all coatings delivered to the application systems, except for those in paragraph (10) of this section which are based on paneling surface area, and those in paragraph (11) of this section which are based on the volatile organic compound content of architectural coatings sold or offered for sale.

(1) Large appliance coating. Volatile organic compound emissions from the application, flashoff, and oven areas during the coating of large appliances (prime and topcoat, or single coat) shall not exceed 2.8 pounds per gallon of coating (minus water) delivered to the application system (0.34 kg/liter).

(2) Furniture coating. Volatile organic compound emissions from metal furniture coating lines (prime and topcoat, or single coat) shall not exceed 3.0 pounds per gallon of coating (minus water) delivered to the application system (0.36 kg/liter).

(3) Coil coating. Volatile organic compound emissions from the coating (prime and topcoat, or single coat) of metal coils shall not exceed 2.6 pounds per gallon of coating (minus water) delivered to the application system (0.31 kg/liter).

(4) Paper coating. Volatile organic compound emissions from the coating of paper (or specified tapes or films) shall not exceed 2.9 pounds per gallon of coating (minus water) delivered to the application system (0.35 kg/liter).

(5) Fabric coating. Volatile organic compound emissions from the coating of fabric shall not exceed 2.9 pounds per gallon of coating (minus water) delivered to the application system (0.35 kg/liter).

(6) Vinyl coating. Volatile organic compound emissions from the coating of vinyl fabrics or sheets shall not exceed 3.8 pounds (minus water) per gallon of coating delivered to the application system (0.45 kg/liter).

(7) Can coating. The following volatile organic compound emission limits shall be achieved, on the basis of solvent content per gallon of coating (minus water) delivered to the application system: