The Texas Commission on Environmental Quality (TCEQ or commission) adopts amendments to §§115.440, 115.442, 115.443, 115.445, 115.446, and 115.449; and adopts new §115.441 *with changes* to the proposed text as published in the October 9, 2009, issue of the *Texas Register* (34 TexReg 7015).

The amendments and new section will be submitted to the United States Environmental Protection Agency (EPA) as a revision to the state implementation plan (SIP).

BACKGROUND AND SUMMARY OF THE FACTUAL BASIS FOR THE ADOPTED RULES

The 1990 Federal Clean Air Act (FCAA) Amendments (42 United States Code (USC), §§7401 *et seq*.) require the EPA to establish primary National Ambient Air Quality Standards (NAAQS) that protect public health and to designate areas exceeding the NAAQS as nonattainment areas. For each designated nonattainment area, the state is required to submit a SIP revision to the EPA that provides for attainment and maintenance of the NAAQS.

FCAA, §172(c)(1) requires that the SIP incorporate all reasonably available control measures, including reasonably available control technology (RACT), for sources of relevant pollutants. The EPA defines RACT as the lowest emission limitation that a particular source is capable of meeting by the application of control technology that is reasonably available considering technological and economic feasibility (44 *Federal Register* 53761, September 17, 1979). For nonattainment areas classified as moderate and above, FCAA, §182(b)(2) requires the state to submit a SIP revision that implements RACT for volatile organic compound (VOC) emission sources addressed in a control techniques guidelines (CTG) document issued between November 15, 1990, and the area's attainment date.

The CTG documents provide information to assist states and local air pollution control authorities in determining RACT for specific emission sources. The CTG documents describe the EPA's evaluation of available information, including emission control options and associated costs, and provide the EPA's RACT recommendations for controlling emissions from these sources. The CTG documents do not impose any legally binding regulations or change any applicable regulations. The EPA's guidance on RACT indicates that states can choose to implement the CTG recommendations, implement an alternative approach, or demonstrate that additional control for the CTG emission source category is not technologically or not economically feasible in the area.

FCAA, §183(e) directs the EPA to regulate VOC emissions from certain consumer and commercial product categories by issuing national regulations or by issuing CTG documents in lieu of regulations. On October 5, 2006, the EPA published a CTG document in lieu of national regulations for VOC emissions from Offset Lithographic Printing and Letterpress Printing (71 *Federal Register* 58745).

Lithography is a plane-o-graphic printing process where both the image and non-image areas are on the same surface plane of the lithographic plate. The image and non-image areas of the plate are chemically differentiated by rendering the non-image area receptive to water and the image area receptive to oil. The offset lithographic printing process indirectly transfers, or offsets, the inked image from the lithographic plate to a rubber blanket and then to the printing substrate. Products typically printed using offset lithography include books, newspapers, periodicals, advertising flyers, brochures, greeting cards, packaging, and reproductions.

Offset lithographic printing is often characterized by the type of press and the type of ink used in the printing process. Offset lithographic printing presses can be either sheet-fed or web. Sheet-fed presses feed individual sheets of substrate to the press and are typically used for shorter printing runs. Web presses feed continuous rolls of substrate to the press and are typically used for longer printing runs. Offset lithographic printing can use either heatset inks, which require heat to set the ink, or non-heatset inks, which dry by absorption, evaporation, or oxidative polymerization. Web presses can use heatset or non-heatset inks but sheet-fed presses can only use non-heatset ink.

In offset lithographic printing, VOC emissions result from the evaporation of components of the ink, fountain solution, and cleaning solution. Offset lithographic printing processes use paste inks that contain pigments for color, binders to fix the pigment to the substrate, and oils to carry the pigment and binders. Heatset inks have higher emissions because heatset inks typically have 20% ink oil retention so the remaining 80% of the ink oil is volatilized in and exhausted from the dryer. Non-heatset inks have much lower emissions because these inks typically have 95% ink oil retention so only 5% of the ink oil evaporates.

Water-based fountain solution adheres to the hydrophilic non-image areas of the lithographic plate and helps keep the oil-based ink in the image areas of the plate. Fountain solutions contain water, nonvolatile printing chemicals, and a dampening agent that reduces the surface tension of the water so the fountain solution easily spreads across the lithographic printing plate. The most common dampening agent is isopropyl alcohol, but nonalcohol dampening agents, like glycol ether or ethylene glycol, are also used.

Cleaning solutions containing organic solvents are used to remove excess printing ink oils or unwanted debris from the offset lithographic press equipment. Cleaning can be performed manually by hand-wiping the press surface with a solvent-coated cloth or mechanically using an automatic blanket wash system to clean the internal parts of the press.

Under the 1997 eight-hour ozone NAAQS, the Dallas-Fort Worth eight-hour ozone nonattainment area (DFW area) is currently classified as a moderate nonattainment area and the Houston-Galveston-Brazoria eight-hour ozone nonattainment area (HGB area) is currently classified as a severe nonattainment area. The adopted rules implement RACT for offset lithographic printing lines in the DFW and HGB areas as required by FCAA, §172(c)(1) and §182(b)(2).

Prior to the adoption of this rulemaking, the offset lithographic printing rules in Chapter 115, Subchapter E, Division 4 only applied to offset lithographic printing lines located on a property in the DFW area with combined VOC emissions of at least 50 tons per calendar year (tpy) when uncontrolled and offset lithographic printing lines located on a property in the HGB area with combined VOC emissions of at least 25 tpy when uncontrolled. The adopted rules will further reduce the VOC content limits for fountain solutions used at these printing sources in the DFW and HGB areas beginning March 1, 2011. Additionally, the adopted rules expand the requirements in the DFW and HGB areas beginning March 1, 2012, to limit the content of fountain and cleaning solutions used by offset lithographic printing lines located on a property with combined VOC emissions of at least 3.0 tpy when uncontrolled.

The adopted rules implement the EPA's RACT recommendations in the 2006 Offset Lithographic and Letterpress Printing CTG except as specifically discussed in this preamble.

Letterpresses

In the 2006 CTG, the EPA recommends controlling VOC emissions from letterpress printing. No rules are being adopted for letterpress printing sources because review of the point source emissions inventory, Title V permits, and central registry databases did not identify any letterpresses that would be subject to the CTG-recommended controls.

Heatset Offset Lithographic Presses

In the 2006 CTG, the EPA recommends requiring an add-on air pollution control device on each individual heatset web offset lithographic press with the uncontrolled potential to emit at least 25 tpy of VOC from ink oils volatilized in the dryer. The EPA recommends different control efficiencies for devices installed before and after the effective date of the rule implementing these CTG recommendations; the EPA recommends requiring a 90% overall control efficiency for control devices installed before the rule effective date and a 95% overall control efficiency for control devices installed after the rule effective date. The commission is not adopting new rules to implement these EPA recommendations for heatset web offset lithographic presses.

The Chapter 115 rules require control devices with an efficiency of at least 90% to be installed on all heatset offset lithographic presses located on a property in the DFW area with combined VOC emissions of at least 50 tpy when uncontrolled and on all heatset offset lithographic presses located on a property in the HGB area with combined VOC emissions of at least 25 tpy when uncontrolled. Unlike the EPA's CTG recommendations that are based only on the uncontrolled VOC emissions of ink oils from the press dryer, the Chapter 115 rules include the uncontrolled VOC emissions of ink oils from the dryer, cleaning

solvents, and fountain solutions. In the 1993 draft Offset Lithographic Printing CTG (Table 5-1: Model Plant Product Use and Baseline (Uncontrolled) Volatile Organic Compound Emissions (Average Tons per Year)), the EPA estimates that 26% of the total uncontrolled VOC emissions from heatset offset lithographic printing operations are emitted from the press dryer. Based on EPA's assumption, an individual heatset press located on a property with total uncontrolled VOC emissions of 50 tpy would emit less than 14 tpy of VOC from the press dryer, and an individual heatset press located on a property with total uncontrolled VOC emissions of 25 tpy would emit less than 7 tpy of VOC from the press dryer. Additionally, the EPA's 2006 CTG recommends exempting heatset presses used for book printing and heatset presses with a maximum web width of 22 inches or less from the add-on control device requirements. The Chapter 115 regulations do not exempt these sources from the control requirements. Therefore, the Chapter 115 offset lithographic printing rules are effectively more stringent than the EPA's 2006 CTG recommendations with regard to the applicability threshold for this control requirement.

The EPA's CTG recommends requiring control equipment first installed before the effective date of rules implementing the CTG to have an overall control efficiency of 90% and control equipment first installed after the effective date of rules implementing the CTG to have an overall control efficiency of 95%. The commission disagrees with the EPA's CTG recommendation to correlate control device efficiency requirements with the first installation date of the control device regardless of where the equipment was installed. Imposing this policy may encourage the installation of older, less efficient equipment and may create potential backsliding issues. The policy may also create significant practical enforceability issues for commission investigators with regard to verifying the first installation date of the control equipment.

Regardless of the first installation date of the device, the EPA recommends providing the alternative option to reduce the control device outlet concentration to 20 parts per million by volume (ppmv) as hexane on a dry basis to accommodate situations where the inlet VOC concentration is too low to demonstrate the 90% or 95% control efficiency. The Chapter 115 rules provide affected owners or operators of a heatset offset lithographic printing press the option to operate a control device to reduce VOC emissions from the press dryer exhaust vent by 90% by weight or maintain a maximum dryer exhaust outlet VOC concentration of 20 ppmv. The Chapter 115 alternative concentration limit is preferable because it encourages VOC emission reductions without requiring add-on controls and implementing the EPA's recommended approach would penalize operations that were able to achieve the 20 ppmv limit without the installation of expensive add-on control devices.

Fountain Solution

The EPA's 2006 CTG recommends an option to limit the fountain solution content to 5.0% alcohol substitutes or less by weight and no alcohol in the fountain solution. Prior to the adoption of this rulemaking, the Chapter 115 rules contained an option limiting the fountain solution content to 3.0% alcohol substitutes or less by weight and no alcohol in the fountain solution for printing operations located on a property in the DFW area with combined VOC emissions of at least 50 tpy when uncontrolled and in the HGB area with combined VOC emissions of at least 25 tpy when uncontrolled. Because these Chapter 115 rules were incorporated into the EPA-approved SIP, implementing the less stringent CTG-recommended 5.0% limit for sources currently complying with the Chapter 115 rules would be backsliding; therefore, the adopted rules retain the 3.0% limit for these major printing sources that are currently subject to the rule. Federally approved state rules and rule approval dates can be found in 40 Code of Federal Regulations §52.2270(c), EPA Approved Regulations in the Texas SIP.

However, in response to comments received on this rulemaking, the commission is adopting rules that include an option to limit the fountain solution content to 5.0% alcohol substitutes or less by weight and no alcohol in the fountain solution for minor printing sources in the DFW and HGB areas that were not previously subject to the more stringent 3.0% fountain solution content limit. Imposing the more stringent 3.0% fountain solution content limit on minor printing sources is not necessary to satisfy RACT requirements for this CTG emission source category.

Cleaning Solution

The EPA's 2006 Offset Lithographic and Letterpress Printing CTG recommends an option limiting the VOC content of cleaning solutions used in offset lithographic printing operations to less than 70.0% VOC by weight in conjunction with work practice standards. However, the adopted rules retain the more stringent existing Chapter 115 cleaning solution content limit of 70.0% VOC or less by volume in conjunction with work practice standards. Assuming the VOC in the cleaning solvent used is kerosene, which is the VOC referenced in the EPA's 2006 CTG, the adopted Chapter 115 content limit of 70.0% VOC or less by volume for cleaning solutions is equivalent to 66.0% VOC or less by weight.

The EPA's 2006 Offset Lithographic and Letterpress Printing CTG also recommends mandating a towel handling program in conjunction with reduced VOC cleaning solution limits for offset lithographic printing lines with the uncontrolled potential to emit at least 3.0 tpy of VOC. Existing Chapter 115 rules include these work practice requirements for facilities choosing the option to limit the cleaning solution content to 70.0% VOC or less by volume; however, these work practice requirements were not originally proposed for cleaning solutions containing a VOC composite partial vapor pressure less than or equal to

10.0 millimeters of mercury at 68 degrees Fahrenheit (20 degrees Celsius). In response to comments received on this rulemaking, the adopted rules include the CTG-recommended work practice requirements for offset lithographic printing operations using cleaning solutions with a VOC composite partial vapor pressure less than or equal to 10.0 millimeters of mercury at 68 degrees Fahrenheit (20 degrees Celsius) if there is a towel handling program in place that ensures all waste ink, solvents, and cleanup rags are stored in closed containers until removed from the site by a licensed disposal or cleaning service.

In addition, the adopted rules retain the existing Chapter 115 option to limit the cleaning solution content to 50.0% VOC or less by volume. Although this cleaning solution content limit was not included in the EPA's 2006 CTG recommendations, the commission is adopting this option to retain the flexibility afforded to owners and operators subject to the current rules.

SECTION BY SECTION DISCUSSION

In addition to the adopted amendments implementing RACT for offset lithographic printing presses, the commission adopts grammatical, stylistic, and various other non-substantive changes to update the rules in accordance with current *Texas Register* style and format requirements, improve readability, establish consistency in the rules, and conform to the standards in the *Texas Legislative Council Drafting Manual*, August 2008. Such changes include appropriate and consistent use of acronyms, punctuation, section references, and certain terminology like *that*, *which*, *shall*, and *must*. References to the *Dallas/Fort Worth area* and the *Houston/Galveston area* have been updated to the *Dallas-Fort Worth area* and the *Houston-Galveston-Brazoria area*, respectively, to be consistent with current terminology for the region. These non-substantive changes are not intended to alter the existing rule requirements in any way and are not specifically discussed in this preamble.

Section 115.440, Applicability and Definitions

The adopted §115.440 changes the section title from *Offset Printing Definitions* to *Applicability and Definitions* to reflect the adopted changes to the content of this section to include the rule applicability.

The commission adopts §115.440(a) to specify that the provisions in this division apply to offset lithographic printing lines located in the DFW, El Paso, and HGB areas. Adopted subsection (a) establishes consistency and improves the readability of the rule by first describing the units affected by the subsequent requirements. The El Paso area is included in the adopted applicability provision because these Chapter 115 rule requirements affect offset lithographic printing operations in this area; however, no new rule requirements are being adopted for sources in the El Paso area.

To accommodate subsection (a), the offset lithographic definitions previously located in §115.440(1) - (7) are adopted as §115.440(b)(1) - (7), respectively, and the offset lithographic definitions previously located in §115.440(8) - (10) are adopted as §115.440(b)(10) - (12), respectively. Except as specifically discussed in this preamble, adopted §115.440(b)(1) - (12) re-letters the definitions with only non-substantive changes necessary to comply with current rule formatting standards.

Adopted subsection (b) indicates that unless the context clearly indicates otherwise or unless specifically defined in the Texas Clean Air Act (Texas Health and Safety Code, Chapter 382), in 30 TAC §§3.2, 101.1, 115.10, or 115.440(b)(1) - (12), the terms used in this division have the meanings commonly used in the field of air pollution control.

Adopted §115.440(b)(3) amends the definition of *Batch* previously located in §115.440(3) to apply to cleaning solution as well as fountain solution. Adopted §115.440(b)(3) defines *Batch* as a supply of fountain solution or cleaning solution that is prepared and used without alteration until completely used or removed from the printing process. The adopted change is necessary to clarify new requirements and is not expected or intended to alter any existing requirements that use this term.

Adopted §115.440(b)(5) amends the definition of *Fountain Solution* previously in §115.440(5) to remove the statement that isopropyl alcohol is the most common additive used to reduce the surface tension of the fountain solution. The adopted change removes superfluous information and is not intended to alter any existing requirements.

Adopted §115.440(b)(6) amends the definition of *Heatset* in existing §115.440(6) to remove the statement that hot air dryers are used to deliver the heat. The adopted change removes superfluous information and is not intended to alter any existing requirements.

Adopted §115.440(b)(7) replaces the definition of *Lithography* in existing §115.440(7) to appropriately describe this printing process. The adopted change clarifies the definition but is not intended to alter any existing requirements that use this term. Adopted §115.440(b)(7) defines *Lithography* as a plane-o-graphic printing process where the image and non-image areas are on the same plane of the printing plate. Adopted §115.440(b)(7) also states that the image and non-image areas are chemically differentiated so the image area is oil receptive and the non-image area is water receptive. At proposal, the word Lithography was inaccurately published as new language when the term was actually part of the existing rule.

In response to comments received, the commission is adopting rules that provide additional options and more flexibility for smaller printing sources that were previously exempt from these Chapter 115 requirements. In order to simplify the rule applicability and compliance schedules for these newly affected facilities, the commission is adopting two new offset lithographic printing definitions in §115.440(b)(8) and (9). Adopted §115.440(b)(8) defines a *Major printing source* as all offset lithographic printing lines located on a property with combined uncontrolled VOC emissions greater than or equal to 50 tpy in the DFW area or greater than or equal to 25 tpy in the HGB area. Adopted §115.440(b)(9) defines a *Minor printing source* as all offset printing lines located on a property with combined uncontrolled VOC emissions less than 50 tpy in the DFW area or less than 25 tpy in the HGB area.

The definition of *Volatile organic compound composite partial pressure* in existing §115.440(10) is adopted as §115.440(b)(12) with non-substantive technical corrections necessary to comply with current rule formatting standards. Adopted §115.440(b)(12) re-letters the associated figure with non-substantive technical corrections necessary to comply with current rule formatting standards.

Section 115.441, Exemptions

The commission adopts new §115.441, *Exemptions*, to establish consistency with other Chapter 115 rules and make the rule easier to read by clearly identifying the offset lithographic printing lines that are exempt from the rule requirements.

Adopted new §115.441(a) exempts the owner or operator of all offset lithographic printing lines located on a property in the DFW or HGB area with combined VOC emissions less than 3.0 tpy when

uncontrolled from all requirements in this division except the monitoring and recordkeeping requirements in §115.446. In the 2006 CTG document, the EPA recommended a similar exemption threshold because controlling such small sources is not cost-effective. The commission agrees with the EPA's determination that requiring these small sources to comply with the control requirements in §115.442(c) is not economically feasible and does not constitute RACT. When determining if a source qualifies for this exemption, or any other exemption that refers to uncontrolled VOC emissions, the combined VOC emissions are calculated without considering the emission reductions achieved through the use of any add-on controls or other operational changes.

The commission is adopting §115.441(b) with changes to the proposed text. Although all of the adopted exemptions in §115.441(b) were included in the proposed text, the commission has restructured the rule language to simplify the exemption criteria for newly affected minor printing sources. Additionally, the commission is not adopting the control requirement exemptions in proposed §115.441(b)(2) and (c)(2) because subsequent revisions to the corresponding control requirements rendered the proposed exemption unnecessary.

Adopted new §115.441(b)(1) - (4) lists the exemptions for the owner or operator of a minor printing source located in the DFW and HGB areas. Adopted new §115.441(b)(1) exempts the owner or operator of these sources from all requirements in this division until March 1, 2012, to clarify that these currently exempt sources will remain exempt from this division until the compliance date specified for these rules. Proposed §115.441(b)(1) and (c)(1) exempted these same sources until March 1, 2011. However, in response to comments received, the commission is adopting the March 1, 2012, compliance date to provide affected owners and operators of these minor sources additional time to make any necessary

changes. Adopted new §115.441(b)(2), proposed as §115.441(b)(5) and (c)(5), allows the owner or operator of these sources to exempt up to 110 gallons of cleaning solution from the content limits in §115.442(c)(1) because there are some cleaning tasks that cannot be carried out using solutions that meet the adopted new content limits. Adopted new §115.441(b)(3), proposed as §115.441(b)(4) and (c)(4), allows the owner or operator of these sources to exempt any press with a total fountain solution reservoir of less than 1.0 gallons from the fountain solution content limits in §115.442(c)(2) - (4) because controlling emissions from these small presses is not economically feasible and therefore not considered RACT. Adopted new §115.441(b)(4), proposed as §115.441(b)(3) and (c)(3), allows the owner or operator to exempt any sheet-fed press with a maximum sheet size of 11.0 inches by 17.0 inches or less from the fountain solution content limits in new §115.442(c)(2) because controlling emissions from these small presses is not economically feasible and therefore not considered RACT. The exemptions adopted in §115.441(b)(2) - (4) are recommended by the EPA in the 2006 Offset Lithographic and Letterpress Printing CTG.

Adopted new §115.441(c), proposed as §115.441(d), exempts all offset lithographic printing lines in the DFW and HGB areas from the control requirements of §115.442(a) and the monitoring and recordkeeping requirements in §115.446(a) beginning March 1, 2011, to clarify that affected sources will only be required to comply with the existing rule requirements until the compliance date for the adopted new rule requirements.

Section 115.442, Control Requirements

To accommodate new control requirements, the control requirements previously located in existing §115.442(1) and (2) are adopted as §115.442(a)(1) and (2), respectively. Except as specifically discussed

in this preamble, adopted §115.442(a)(1) and (2) re-letters the existing control requirements with only non-substantive changes necessary to comply with current rule formatting standards and the formatting change is not intended to alter any existing rule requirements.

The control requirements in existing §115.442 are adopted as §115.442(a) with non-substantive changes necessary to comply with current rule formatting standards. In addition, adopted §115.442(a) indicates that beginning March 1, 2011, affected sources in the DFW and HGB areas will no longer be required to comply with the requirements in this subsection. The adopted addition is necessary to clarify that affected sources will only be required to comply with the existing rule requirements until the compliance date for the adopted new rule requirements.

Adopted §115.442(a)(2) re-letters existing §115.442(2) with non-substantive technical corrections necessary to comply with current rule formatting standards. In addition, adopted §115.442(a)(2) requires the owner or operator of a heatset offset lithographic printing press to maintain the dryer pressure lower than the press room air pressure such that air flows into the dryer at all times when the press is operating. This adopted requirement is currently included in existing §115.446(3), and the adopted change is not expected nor intended to impose any new requirements on units currently subject to this division. The commission adopts only to add the requirement in existing §115.446(3) to the adopted §115.442(a)(2) to more appropriately indicate that this is a control requirement and not a monitoring or recordkeeping requirement.

Except as specifically discussed elsewhere in this preamble, adopted subsections (b) and (c) implement the EPA's RACT recommendations in the 2006 Offset Lithographic and Letterpress Printing CTG. As

noted elsewhere in this preamble, the commission is adopting rules to provide additional options for newly affected minor printing sources. The adopted §115.442(b) and (c) provide separate control requirements for major and minor printing sources to clearly distinguish the different requirements for these sources. Although many of the control requirements proposed in §115.442(b) are being adopted verbatim, the rule structure has been re-formatted to improve readability.

The commission adopts §115.442(b) with changes to the proposed text. The commission adopts §115.442(b) to incorporate RACT requirements for affected offset lithographic printing lines located at major printing sources in the DFW and HGB areas in accordance with the appropriate compliance date specified in §115.449(e) and (g).

Adopted §115.442(b)(1), proposed as §115.442(b)(4), requires the owner or operator of an offset lithographic printing press to limit the VOC content of the as-applied cleaning solution by complying with one of the options in subparagraphs (A), (B), or (C). These options are provided to give affected owners or operators the flexibility to choose the appropriate option for their facility. Adopted subparagraph (A) limits the cleaning solution content to 50.0% VOC or less by volume. Adopted subparagraph (A) is based on existing §115.442(1)(F) and was not included in EPA's 2006 CTG recommendations. The commission adopts this option to retain the flexibility afforded to affected owners and operators in the current rules. Adopted subparagraph (B) limits the cleaning solution content to 70.0% VOC or less by volume and requires incorporating a towel handling program that ensures all waste ink, solvents, and cleanup rags are stored in closed containers until removed from the site by a licensed disposal or cleaning service. The 2006 CTG recommends limiting the VOC content of cleaning solutions to less than 70.0% VOC by weight in conjunction with work practice standards. However, the adopted

rules retain the more stringent existing Chapter 115 cleaning solution content limit of 70.0% VOC or less by volume in conjunction with work practice standards. Proposed subparagraph (C) limited the cleaning solution VOC composite partial vapor pressure to 10.0 millimeters of mercury or less at 68 degrees Fahrenheit (20 degrees Celsius). In response to comments received, the adopted subparagraph (C) limits the cleaning solution VOC composite partial vapor pressure to 10.0 millimeters of mercury or less at 68 degrees Fahrenheit (20 degrees Celsius) and also requires incorporating a towel handling program that ensures all waste ink, solvents, and cleanup rags are stored in closed containers until removed from the site by a licensed disposal or cleaning service.

Adopted §115.442(b)(2), proposed as §115.442(b)(3), requires the owner or operator of a sheet-fed offset lithographic printing press to limit the VOC content of the as-applied fountain solution by complying with one of the options in subparagraphs (A), (B), or (C). These options are provided to give affected owners or operators the flexibility to choose the appropriate option for their facility. Adopted subparagraph (A) limits the fountain solution content to 5.0% alcohol or less by weight. Adopted subparagraph (B) limits the fountain solution content to 8.5% alcohol or less by weight if the fountain solution is refrigerated below 60 degrees Fahrenheit (15.5 degrees Celsius). Adopted subparagraph (C) limits the fountain solution content to 3.0% alcohol substitutes or less by weight and no alcohol in the fountain solution. For reasons discussed elsewhere in this preamble, adopted subparagraph (C) requires the more stringent 3.0% limit in existing Chapter 115 rules instead of the 5.0% limit recommended by EPA in the 2006 CTG.

Adopted §115.442(b)(3), proposed as §115.442(b)(1), requires the owner or operator of an affected non-heatset web offset lithographic printing press to limit the VOC content of the as-applied fountain solution

to 3.0% alcohol substitutes or less by weight and no alcohol in the fountain solution. The adopted requirement is based on the existing Chapter 115 rules instead of the EPA's 2006 CTG recommendations. The EPA recommended limiting the fountain solution content to 5.0% alcohol substitutes or less by weight and no alcohol in the fountain solution. However, the existing Chapter 115 rules limit the fountain solution content to 3.0% alcohol substitutes or less by weight and no alcohol in the fountain solution. Because the existing rules are incorporated into the EPA-approved SIP, adopting the CTG-recommended 5.0% limit for sources currently complying with the Chapter 115 rules would be backsliding; therefore, the adopted rules retain the 3.0% limit for these sources.

Adopted §115.442(b)(4), proposed as §115.442(b)(2), requires the owner or operator of a heatset web offset lithographic printing press to limit the VOC content of the as-applied fountain solution by complying with one of the options in subparagraphs (A), (B), or (C). These options are provided to give affected owners or operators the flexibility to choose the appropriate option for their facility. Adopted subparagraph (A) limits the fountain solution content to 1.6% alcohol or less by weight. Adopted subparagraph (B) limits the fountain solution content to 3.0% alcohol or less by weight if the fountain solution is refrigerated below 60 degrees Fahrenheit (15.5 degrees Celsius). Adopted subparagraph (C) limits the fountain solution content to 3.0% alcohol substitutes or less by weight and no alcohol in the fountain solution. For reasons discussed elsewhere in this preamble, adopted subparagraph (C) requires the more stringent 3.0% limit in existing Chapter 115 rules instead of the 5.0% limit recommended by EPA in the 2006 CTG.

Adopted §115.442(b)(5), proposed as §115.442(a)(2), incorporates the requirements from the existing §115.442(2) with non-substantive technical corrections necessary to comply with current rule formatting

standards and to retain this existing control requirement for major printing sources in DFW and HGB areas after the March 1, 2011, compliance date. In addition, adopted §115.442(b)(5) requires the owner or operator of a heatset offset lithographic printing press to maintain the dryer pressure lower than the press room air pressure such that air flows into the dryer at all times when the press is operating. This adopted requirement was previously included in §115.446(3), and the adopted change is not expected nor intended to impose any new requirements on units currently subject to this division. The commission adopts this change only to add the requirement in existing §115.446(3) to the adopted §115.442(b)(5) to more appropriately indicate that this is a control requirement and not a monitoring or recordkeeping requirement.

The commission adopts §115.442(c) to incorporate RACT requirements for affected offset lithographic printing lines located at minor printing sources in the DFW and HGB areas in accordance with the appropriate compliance date specified in §115.449(f) and (g).

Adopted §115.442(c)(1), proposed as §115.442(b)(4), requires the owner or operator of an offset lithographic printing press to limit the VOC content of the as-applied cleaning solution by complying with one of the options in subparagraphs (A), (B), or (C). These options are provided to give affected owners or operators the flexibility to choose the appropriate option for their facility. Adopted subparagraph (A) limits the cleaning solution content to 50.0% VOC or less by volume. Adopted subparagraph (A) is based on existing §115.442(1)(F) and was not included in EPA's 2006 CTG recommendations. The commission adopts this option to retain the flexibility afforded to affected owners and operators in the current rules. Adopted subparagraph (B) limits the cleaning solution content to 70.0% VOC or less by volume and requires incorporating a towel handling program that ensures all waste ink,

solvents, and cleanup rags are stored in closed containers until removed from the site by a licensed disposal or cleaning service. The 2006 CTG recommends limiting the VOC content of cleaning solutions to less than 70.0% VOC by weight in conjunction with work practice standards. However, the adopted rules retain the more stringent existing Chapter 115 cleaning solution content limit of 70.0% VOC or less by volume in conjunction with work practice standards. Proposed subparagraph (C) limited the cleaning solution VOC composite partial vapor pressure to 10.0 millimeters of mercury or less at 68 degrees Fahrenheit (20 degrees Celsius). In response to comments received, the adopted subparagraph (C) limits the cleaning solution VOC composite partial vapor pressure to 10.0 millimeters of mercury or less at 68 degrees Fahrenheit (20 degrees Celsius) and also requires incorporating a towel handling program that ensures all waste ink, solvents, and cleanup rags are stored in closed containers until removed from the site by a licensed disposal or cleaning service.

Adopted §115.442(c)(2), proposed as §115.442(b)(3), requires the owner or operator of a sheet-fed offset lithographic printing press to limit the VOC content of the as-applied fountain solution by complying with one of the options in subparagraphs (A), (B), or (C). These options are provided to give affected owners or operators the flexibility to choose the appropriate option for their facility. Adopted subparagraph (A) limits the fountain solution content to 5.0% alcohol or less by weight. Adopted subparagraph (B) limits the fountain solution content to 8.5% alcohol or less by weight if the fountain solution is refrigerated below 60 degrees Fahrenheit (15.5 degrees Celsius). Adopted subparagraph (C) limits the fountain solution content to 5.0% alcohol substitutes or less by weight and no alcohol in the fountain solution. As discussed elsewhere in this preamble, adopted subparagraph (C) requires the 5.0% limit recommended in the EPA's 2006 CTG instead of the proposed 3.0% limit because imposing the

more stringent limit on minor printing sources is not necessary to satisfy RACT requirements for this CTG emission source category.

Adopted §115.442(c)(3), proposed as §115.442(b)(1), requires the owner or operator of an affected non-heatset web offset lithographic printing press to limit the VOC content of the as-applied fountain solution to 5.0% alcohol substitutes or less by weight and no alcohol in the fountain solution. As discussed elsewhere in this preamble, adopted paragraph (3) requires the 5.0% limit recommended in the EPA's 2006 CTG instead of the proposed 3.0% limit because imposing the more stringent limit on minor printing sources is not necessary to satisfy RACT requirements for this CTG emission source category.

Adopted §115.442(c)(4), proposed as §115.442(b)(2), requires the owner or operator of a heatset web offset lithographic printing press to limit the VOC content of the as-applied fountain solution by complying with one of the options in subparagraphs (A), (B), or (C). These options are provided to give affected owners or operators the flexibility to choose the appropriate option for their facility. Adopted subparagraph (A) limits the fountain solution content to 1.6% alcohol or less by weight. Adopted subparagraph (B) limits the fountain solution content to 3.0% alcohol or less by weight if the fountain solution is refrigerated below 60 degrees Fahrenheit (15.5 degrees Celsius). Adopted subparagraph (C) limits the fountain solution content to 5.0% alcohol substitutes or less by weight and no alcohol in the fountain solution. As discussed elsewhere in this preamble, adopted subparagraph (C) requires the 5.0% limit recommended in the EPA's 2006 CTG instead of the proposed 3.0% limit because imposing the more stringent limit on minor printing sources is not necessary to satisfy RACT requirements for this CTG emission source category.

Section 115.443, Alternative Control Requirements

The commission adopts non-substantive changes to §115.443 necessary to comply with current rule formatting standards.

Section 115.445, Approved Test Methods

The commission adopts non-substantive changes to §115.445(1) - (6) necessary to comply with current rule formatting standards.

The commission also adopts §115.445(7) allowing minor modifications to the test methods listed in this section if the modifications are approved by the executive director. Adopted paragraph (7) establishes consistency in the rules by providing the owner or operator of an affected offset lithographic printing line with the same flexibility afforded to the owner or operator of other units regulated in Chapter 115.

The commission adopts §115.445(8) with changes to the proposed text. The commission adopts §115.445(8) allowing the use of test methods not listed in this section if the methods are validated by 40 Code of Federal Regulations Part 63, Appendix A, Test Method 301 (effective December 29, 1992) and are approved by the executive director. The proposed text inadvertently omitted that the use of test methods not listed in §115.445 were also contingent on approval from the executive director. Adopted paragraph (8) establishes consistency in the rules by providing the owner or operator of an affected offset lithographic printing line with the same flexibility afforded to the owner or operator of other units regulated in Chapter 115.

Section 115.446, Monitoring and Recordkeeping Requirements

To accommodate adopted subsection (b), the commission adopts the requirements currently located in §115.446(1) - (8) as re-lettered §115.446(a)(1) - (8), respectively, with non-substantive technical corrections necessary to comply with current rule formatting standards. This adopted formatting change is not intended to alter any existing rule requirements. In addition, adopted §115.446(a) clarifies that the requirements in this subsection will not apply to sources in the DFW and HGB areas beginning on the March 1, 2011, compliance date of the adopted rule requirements.

The commission adopts §115.446(b) to list the monitoring and recordkeeping requirements for affected offset lithographic printing presses in the DFW and HGB areas in accordance with the appropriate compliance date specified in §115.449(e) - (g). Adopted subsection (b) improves the readability of the rule by locating all of the monitoring and recordkeeping requirements for the DFW and HGB areas in the same subsection. Although many of the monitoring and recordkeeping requirements proposed in §115.446(b) are being adopted verbatim, the rule structure has been re-formatted to improve readability.

Adopted §115.446(b)(1) requires an owner or operator claiming an exemption in §115.441 to maintain records sufficient to demonstrate continuous compliance with the applicable exemption criteria. In response to comments received, the commission has added as an example that maintaining records of ink, cleaning solvent, and fountain solution usage may be sufficient to demonstrate compliance with the exemption provided in §115.441(a) for sources located on a property with combined VOC emissions less than 3.0 tpy when uncontrolled.

Adopted §115.446(b)(2), proposed as §115.446(b)(5), requires the owner or operator of an offset lithographic printing press to use one of the options in subparagraphs (A) or (B) to demonstrate

compliance with the cleaning solution content limits in §115.442(b)(1) and (c)(1). These options are provided to give affected owners or operators the flexibility to choose the appropriate option for their facility.

Adopted §115.446(b)(2)(A) requires the VOC concentration of each batch of cleaning solution to be monitored using flow meters to monitor the water and cleaning solution flow rates on a press with automatic cleaning equipment. Adopted §115.446(b)(2)(A) requires the flow meters to be installed, maintained, and operated according to the manufacturer's instructions and requires the flow meters to be calibrated so that the VOC concentration of the cleaning solution complies with the content limits in §115.442(b)(1) and (c)(1). Adopted §115.446(b)(2)(A) requires records to be sufficient to demonstrate continuous compliance with the cleaning solution content limits in §115.442(b)(1) and (c)(1). Adopted §115.446(b)(2)(A) imposes the same requirements in existing §115.446(6) with non-substantive changes necessary to comply with current rule formatting standards.

Adopted §115.446(b)(2)(B) requires the VOC concentration of each batch of cleaning solution to be determined using analytical data from the material safety data sheet (MSDS) or equivalent information from the supplier that was derived using the approved test methods in §115.445. Adopted §115.446(b)(2)(B) requires the concentration of all VOC used to prepare the batch and, if diluted prior to use, the proportions that each of these materials is used to be recorded for each batch of cleaning solution. Adopted §115.446(b)(2)(B) also requires records to be sufficient to demonstrate continuous compliance with the cleaning solution content limits in §115.442(b)(1) and (c)(1). This option is expected to be sufficient to ensure continuous compliance with the applicable control requirements and reduce the compliance burden for affected sources.

Adopted §115.446(b)(3) requires the owner or operator of an offset lithographic printing press to use one of the options in subparagraphs (A) or (B) to demonstrate compliance with the fountain solution content limits in §115.442(b)(2) - (4) and (c)(2) - (4). These options are provided to give affected owners or operators the flexibility to choose the appropriate option for their facility.

Adopted §115.446(b)(3)(A) requires the alcohol concentration of each batch of fountain solution to be monitored using a refractometer or a hydrometer that is corrected for temperature; requires the refractometer or hydrometer to have a visual, analog, or digital readout with an accuracy of 0.5% VOC; and requires standard solution to be used to calibrate the refractometer for the type of alcohol used in the fountain solution. Adopted §115.446(b)(3)(A) provides an option for the VOC content of the fountain solution to be monitored with a conductivity meter if a refractometer or hydrometer cannot be used for the type of VOC in the fountain solution and requires the conductivity meter reading to be referenced to the conductivity of the incoming water. Adopted §115.446(b)(3)(A) requires records to be sufficient to demonstrate continuous compliance with the fountain solution content limits in §115.442(b)(2) - (4) and (c)(2) - (4). Adopted §115.446(b)(3)(A) imposes the same requirements in existing §115.446(4) except that adopted §115.446(b)(3)(A) eliminated the option to monitor the fountain solution alcohol concentration once per eight-hour shift instead of once per batch because this option could allow the use of fountain solution with an unknown concentration and prevent the continuous demonstration of compliance with content limits in §115.442(b)(2) - (4) and (c)(2) - (4).

Adopted §115.446(b)(3)(B) requires the VOC concentration of each batch fountain solution to be determined using analytical data from the MSDS or equivalent information from the supplier that was

derived using the approved test methods in §115.445. Adopted §115.446(b)(3)(B) requires the concentration of all alcohols or alcohol substitutes used to prepare the batch and, if diluted prior to use, the proportions that each of these materials is used to be recorded for each batch of fountain solution. Adopted §115.446(b)(3)(B) also requires records to be sufficient to demonstrate continuous compliance with the fountain solution content limits in §115.442(b)(2) - (4) and (c)(2) - (4). This option is expected to be sufficient to ensure continuous compliance with the applicable control requirements and reduce the compliance burden for affected sources.

Adopted §115.446(b)(4) requires the owner or operator of an offset lithographic printing press using refrigeration equipment on the fountain solution reservoir to monitor and record the fountain solution temperature at least once per hour. Adopted §115.446(b)(4) requires temperature monitoring devices to be installed, maintained, and operated according to the manufacturer's specifications. Adopted §115.446(b)(4) requires records to be sufficient to demonstrate continuous compliance with the fountain solution content limits in §115.442(b)(2) and (4) and (c)(2) and (4).

Adopted §115.446(b)(5), proposed as §115.446(b)(2), provides the monitoring and recordkeeping requirements for the owner or operator of heatset web offset lithographic presses with add-on control devices. Adopted subsection (b)(5) imposes the same requirements in existing §115.446(1) - (3) with non-substantive changes necessary to comply with current rule formatting standards. Adopted §115.446(b)(5) is not intended to alter any existing rule requirements or impose any new requirements; the adopted new paragraph is only provided to improve the readability of the rule by locating all of the monitoring and recordkeeping requirements for the DFW and HGB areas in the same subsection. In response to comments, the commission clarified adopted §115.446(b)(5)(A) to indicate that measuring and recording

the operational parameters of the control device at least once every 15 minutes is sufficient to demonstrate compliance with this subparagraph.

The commission adopts §115.446(b)(6) to require an affected owner or operator to maintain records of any tests conducted using the approved test methods in §115.445. Adopted §115.446(b)(6) imposes the same requirements in existing §115.446(7) with non-substantive technical corrections necessary to comply with current rule formatting standards.

The commission adopts §115.446(b)(7) to require all records to be maintained for at least two years and to make those records available upon request. Adopted §115.446(b)(7) imposes the same requirements in existing §115.446(8) except that adopted §115.446(b)(7) does not require the records to be maintained on site. The commission is adopting this change to reduce the compliance burden for affected sources.

Section 115.449, Compliance Schedules

The commission adopts changing the title of §115.449 from *Counties and Compliance Schedules* to *Compliance Schedules* to establish consistency in the rules by listing the compliance schedule for affected units by nonattainment areas instead of by individual counties within each nonattainment area.

The commission adopts amended §115.449(b) to indicate that requirements in existing §115.442 are re-lettered as §115.442(a) and to indicate that requirements in existing §115.446 are re-lettered as §115.446(a).

The commission is deleting §115.449(c) because the new rule requirements affect the sources currently exempted in this subsection.

Existing §115.449(d) is re-lettered as §115.449(c) and amended to indicate that requirements in existing §115.442 are re-lettered as §115.442(a) and to indicate that requirements in existing §115.446 are re-lettered as §115.446(a).

The commission is deleting §115.449(e) because the new rule requirements affect the sources currently exempted in this subsection.

The commission is re-lettering the existing §115.449(f) as §115.449(d) with amendments to clarify §115.442(a) contains the control requirements in existing §115.442 and §115.446(a) contains the monitoring and recordkeeping requirements in existing §115.446.

The commission adopts subsection (e) requiring the owner or operator of a major printing source in the DFW or HGB areas to comply with the requirements in this division no later than March 1, 2011, except as specified in subsection (b) and adopted subsections (c) and (d). The March 1, 2011, compliance date provides affected owners and operators approximately one year to make any necessary changes and ensures that any VOC reductions achieved by the adopted rules will occur prior to the ozone season in the DFW area.

The commission adopts subsection (f) requiring the owner or operator of a minor printing source in the DFW or HGB areas to comply with the requirements in this division no later than March 1, 2012. In

response to comments received, the commission is adopting the March 1, 2012, compliance date to provide affected owners and operators of these minor sources additional time to make any necessary changes.

The commission also adopts subsection (g) to require the owner or operator of an offset lithographic printing line in the DFW or HGB areas that becomes subject to the requirements of this division on or after the compliance date specified in subsection (e) and (f), to comply with the requirements of this division no later than 60 days after becoming subject.

FINAL REGULATORY IMPACT ANALYSIS DETERMINATION

The commission reviewed the adopted rulemaking in light of the regulatory impact analysis requirements of Texas Government Code, §2001.0225, and determined that the adopted rulemaking meets the definition of a "major environmental rule" as defined in that statute. A "major environmental rule" means a rule, the specific intent of which is to protect the environment or reduce risks to human health from environmental exposure, and that may adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state. The adopted rulemaking does not, however, meet any of the four applicability criteria for requiring a regulatory impact analysis for a major environmental rule, which are listed in Texas Government Code, §2001.0225(a). Texas Government Code, §2001.0225, applies only to a major environmental rule, the result of which is to: 1) exceed a standard set by federal law, unless the rule is specifically required by state law; 2) exceed an express requirement of state law, unless the rule is specifically required by federal law; 3) exceed a requirement of a delegation agreement or contract between the state and an agency or representative of the federal government to implement a state and

federal program; or 4) adopt a rule solely under the general powers of the agency instead of under a specific state law.

The adopted rules implement the EPA's RACT recommendations in the 2006 Offset Lithographic and Letterpress Printing CTG (71 *Federal Register* 58745, October 5, 2006) that the commission has determined to represent RACT for the DFW and HGB areas. FCAA, §172(c)(1) requires the SIP for nonattainment areas to include reasonably available control measures, including RACT, for sources of pollutants identified by the EPA as required by FCAA, §183(e). FCAA, §182(b)(2) provides that for certain nonattainment areas, states must revise their SIP to include RACT for sources of VOC emissions covered by a CTG document issued after November 15, 1990, and prior to the area's date of attainment. The adopted rule revisions implement RACT for offset lithographic printing lines in the DFW and HGB areas, as required by the FCAA, §172(c)(1). Specifically, the adopted rules limit the VOC content of solvents used by affected offset lithographic printing facilities in the DFW and HGB areas.

The adopted rulemaking implements requirements of 42 USC, §7410, which requires states to adopt a SIP that provides for the implementation, maintenance, and enforcement of the NAAQS in each air quality control region of the state. While 42 USC, §7410 generally does not require specific programs, methods, or reductions in order to meet the standard, the SIP must include enforceable emission limitations and other control measures, means, or techniques (including economic incentives such as fees, marketable permits, and auctions of emissions rights), as well as schedules and timetables for compliance as may be necessary or appropriate to meet the applicable requirements of this chapter (42 USC, Chapter 85, Air Pollution Prevention and Control). The provisions of the FCAA recognize that states are in the best position to determine what programs and controls are necessary or appropriate in order to meet the

NAAQS. This flexibility allows states, affected industry, and the public to collaborate on the best methods for attaining the NAAQS for the specific regions in the state. Even though the FCAA allows states to develop their own programs, this flexibility does not relieve a state from developing a program that meets the requirements of 42 USC, §7410. States are not free to ignore the requirements of 42 USC, §7410, and must develop programs to assure that their contributions to nonattainment areas are reduced so that these areas can be brought into attainment on schedule. Additionally, states have further obligations under FCAA, §172(c)(1) and §182(b)(2) to provide for RACT in nonattainment areas, such as HGB and DFW. The adopted rulemaking will implement RACT for offset lithographic printing facilities in the DFW and HGB areas. Implementation of RACT is a necessary and required component of developing the SIP for nonattainment areas as required by 42 USC, §7410.

The requirement to provide a fiscal analysis of regulations in the Texas Government Code was amended by Senate Bill (SB) 633 during the 75th Legislature, 1997. The intent of SB 633 was to require agencies to conduct a regulatory impact analysis of extraordinary rules. These are identified in the statutory language as major environmental rules that will have a material adverse impact and will exceed a requirement of state law, federal law, or a delegated federal program, or are adopted solely under the general powers of the agency. With the understanding that this requirement would seldom apply, the commission provided a cost estimate for SB 633 concluding that "based on an assessment of rules adopted by the agency in the past, it is not anticipated that the bill will have significant fiscal implications for the agency due to its limited application." The commission also noted that the number of rules that would require assessment under the provisions of the bill was not large. This conclusion was based, in part, on the criteria set forth in the bill that exempted adopted rules from the full analysis unless the rule was a major environmental rule that exceeds a federal law.

As discussed elsewhere in this preamble, the FCAA does not always require specific programs, methods, or reductions in order to meet the NAAQS; thus, states must develop programs for each area contributing to nonattainment to help ensure that those areas will meet the attainment deadlines. Because of the ongoing need to address nonattainment issues, and to meet the requirements of 42 USC, §7410, the commission routinely proposes and adopts SIP rules. The legislature is presumed to understand this federal scheme. If each rule adopted for inclusion in the SIP was considered to be a major environmental rule that exceeds federal law, then every SIP rule would require the full regulatory impact analysis contemplated by SB 633. This conclusion is inconsistent with the conclusions reached by the commission in its cost estimate and by the Legislative Budget Board (LBB) in its fiscal notes. Since the legislature is presumed to understand the fiscal impacts of the bills it passes, and that presumption is based on information provided by state agencies and the LBB, the commission believes that the intent of SB 633 was only to require the full regulatory impact analysis for rules that are extraordinary in nature. While the SIP rules will have a broad impact, the impact is no greater than is necessary or appropriate to meet the requirements of the FCAA. For these reasons, rules adopted for inclusion in the SIP fall under the exception in Texas Government Code, §2001.0225(a), because they are required by federal law.

The commission has consistently applied this construction to its rules since this statute was enacted in 1997. Since that time, the legislature has revised the Texas Government Code but left this provision substantially unamended. It is presumed that "when an agency interpretation is in effect at the time the legislature amends the laws without making substantial change in the statute, the legislature is deemed to have accepted the agency's interpretation." *Central Power & Light Co. v. Sharp*, 919 S.W.2d 485, 489 (Tex. App. Austin 1995), *writ denied with per curiam opinion respecting another issue*, 960 S.W.2d 617

(Tex. 1997); *Bullock v. Marathon Oil Co.*, 798 S.W.2d 353, 357 (Tex. App. Austin 1990, *no writ*). *Cf. Humble Oil & Refining Co. v. Calvert*, 414 S.W.2d 172 (Tex. 1967); *Dudney v. State Farm Mut. Auto Ins. Co.*, 9 S.W.3d 884, 893 (Tex. App. Austin 2000); *Southwestern Life Ins. Co. v. Montemayor*, 24 S.W.3d 581 (Tex. App. Austin 2000, pet. denied); and *Coastal Indust. Water Auth. v. Trinity Portland Cement Div.*, 563 S.W.2d 916 (Tex. 1978).

The commission's interpretation of the regulatory impact analysis requirements is also supported by a change made to the Texas Administrative Procedure Act (APA) by the legislature in 1999. In an attempt to limit the number of rule challenges based upon APA requirements, the legislature clarified that state agencies are required to meet these sections of the APA against the standard of "substantial compliance." The legislature specifically identified Texas Government Code, §2001.0225, as falling under this standard. The commission has substantially complied with the requirements of Texas Government Code, §2001.0225.

The specific intent of the adopted rulemaking is to protect the environment and to reduce risks to human health by requiring control measures for offset lithographic printing presses that have been determined by the commission to be RACT for the DFW and HGB areas. The adopted rulemaking does not exceed a standard set by federal law or exceed an express requirement of state law. No contract or delegation agreement covers the topic that is the subject of this adopted rulemaking. Therefore, this rulemaking is not subject to the regulatory analysis provisions of Texas Government Code, §2001.0225(b), because although the adopted rulemaking meets the definition of a "major environmental rule", it does not meet any of the four applicability criteria for a major environmental rule.

The commission invited public comment regarding the draft regulatory impact analysis determination during the public comment period. No comments were received on the draft regulatory impact analysis determination.

TAKINGS IMPACT ASSESSMENT

The commission evaluated the rulemaking and performed an assessment of whether Texas Government Code, Chapter 2007, is applicable. The specific purpose of the adopted rulemaking is to implement RACT for the offset lithographic printing lines in the DFW and HGB areas. FCAA, §182(b)(2) provides that for certain nonattainment areas, states must revise their SIP to include RACT for sources of VOC emissions covered by a CTG document issued after November 15, 1990, and prior to the area's date of attainment. In 2006, the EPA published a CTG for Offset Lithographic and Letterpress Printing. Texas Government Code, §2007.003(b)(4), provides that Chapter 2007 does not apply to this adopted rulemaking because it is an action reasonably taken to fulfill an obligation mandated by federal law.

In addition, the commission's assessment indicates that Texas Government Code, Chapter 2007 does not apply to these adopted rules because this is an action that is taken in response to a real and substantial threat to public health and safety; that is designed to significantly advance the health and safety purpose; and that does not impose a greater burden than is necessary to achieve the health and safety purpose. Thus, this action is exempt under Texas Government Code, §2007.003(b)(13). The adopted rules fulfill the FCAA requirement to implement RACT in nonattainment areas. These revisions will result in VOC emission reductions in ozone nonattainment areas that may contribute to the timely attainment of the ozone standard and reduced public exposure to VOC. Consequently, the adopted rulemaking meets the

exemption criteria in Texas Government Code, §2007.003(b)(4) and (13). For these reasons, Texas Government Code, Chapter 2007 does not apply to this adopted rulemaking.

CONSISTENCY WITH THE COASTAL MANAGEMENT PROGRAM

The commission determined the rulemaking is identified in the Coastal Coordination Act Implementation Rules, 31 TAC §505.11(b)(4), relating to rules subject to the Texas Coastal Management Program (CMP) and will, therefore require that goals and policies of the CMP be considered during the rulemaking process. The commission reviewed this rulemaking for consistency with the CMP goals and policies in accordance with the regulations of the Coastal Coordination Council and determined that because the rulemaking will only require reductions in the amount of potential air pollutants from offset lithographic facilities, no coastal natural resource areas will be adversely affected by the adopted rules although sources within counties included in the CMP will be required to comply with the amended rule. Therefore, the adopted rulemaking is consistent with CMP goals and policies.

The commission invited public comment regarding the consistency with the CMP during the public comment period. No comments were received regarding the consistency with the CMP.

EFFECT ON SITES SUBJECT TO THE FEDERAL OPERATING PERMITS PROGRAM

Chapter 115 is an applicable requirement under 30 TAC Chapter 122, Federal Operating Permits Program. Owners or operators subject to the federal operating permit program must, consistent with the revision process in Chapter 122, upon the effective date of the rulemaking, revise their operating permit to include the new Chapter 115 requirements.

PUBLIC COMMENT

The commission held public hearings on October 28, 2009, at 2:00 p.m. and 6:00 p.m. at the Houston-Galveston Area Council offices in Houston; October 29, 2009, at 1:00 p.m. and 3:00 p.m. at the Texas Commission on Environmental Quality headquarters in Austin; and November 2, 2009, at 2:00 p.m. at the Texas Commission on Environmental Quality Region 4 Office in Fort Worth. Question and answer sessions were held 30 minutes prior to the hearings. The October 28, 2009, hearing scheduled for 6:00 p.m. and the October 29, 2009, hearings were not officially opened because no party indicated a desire to provide comment. Two persons presented oral comments at the 2:00 p.m. hearing in Houston regarding the Chapter 115 rulemaking, and one person presented oral comments at the hearing in Fort Worth regarding the Chapter 115 rulemaking.

The public comment period opened on October 9, 2009, and closed on November 9, 2009. Written comments were accepted via mail, fax, and through the eComments system.

Oral comments regarding the Chapter 115 rulemaking were presented by Printing Industries of the Gulf Coast (PIGC), Printer's Service (PS), and Printing and Imaging Association of MidAmerica (PIAM). Written comments regarding the Chapter 115 rulemaking were provided by EPA, Houston Sierra Club (HSC), and Printing and Imaging Association of MidAmerica (PIAM). In addition, KIDS for Clean Air, the Sustainable Energy and Economic Development Coalition, the Clean Air Institute of Texas, and one individual submitted written comments supporting the comments made by HSC.

RESPONSE TO COMMENTS

Section 115.441, Exemptions

PIAM suggested simplifying the threshold in §115.441 because calculating the 3.0 tpy threshold can be time-consuming and difficult especially for smaller businesses with limited manpower. PIAM suggested basing the rule applicability on quantity of materials purchased. Specifically, PIAM suggested revising the rule to apply to the owner or operator of: a sheet-fed or non-heatset web press who purchased at least 768 gallons of cleaning solvents and fountain solution additives in a 12-month rolling period; or a heatset web press who purchased 5,600 pounds of ink, cleaning solvents, and fountain solutions in a 12-month rolling period.

Basing the exemption criteria for the rule applicability threshold in §115.441 on annual VOC emissions is consistent with other Chapter 115 rule applicability thresholds and is generally consistent with the EPA's 2006 CTG-recommended applicability threshold. Although the commission acknowledges this method will require additional calculations, this method also provides affected facilities with the flexibility to determine the most appropriate combination of VOC content for inks, fountain solution, and cleaning solvents. The commission's Small Business and Environmental Assistance Division will work with the regulated community and the Air Quality Division to develop guidance to assist in the proper calculation and demonstration of compliance for these affected sources. Therefore, no changes have been made in response to this comment.

HSC commented that no exemption should be provided for companies to use 110 gallons of cleaning solution. HSC requested the cleaning solution control requirement exemptions in §115.441(b)(5) and (c)(5) be revised to exempt no more than 500 pounds of VOC emissions from cleaning solutions.

The EPA's 2006 Offset Lithographic and Letterpress Printing CTG recommends exempting up to 110 gallons of cleaning solutions per year from the VOC content limits because there are a small number of cleaning tasks that cannot be carried out using low-VOC cleaning solutions. The commission agrees with the EPA that providing this exemption is appropriate. Additionally, the commenter provided no justification for imposing the more stringent limit. Therefore, no changes were made in response to this comment.

Section 115.442, Control Requirements

EPA commented that work practice requirements for cleaning solutions used in offset lithographic printing operations provide reasonable, cost-effective controls and are an important way to reduce emissions. EPA stated that in order to meet RACT requirements, the commission should either adopt rules implementing the work practice requirements or provide analysis demonstrating that the requirements are satisfied by existing rules. HSC commented that the rule preamble did not provide an adequate explanation of the general housekeeping requirements for cleaning solutions used in offset lithographic printing operations for the public to review and comment on. PIAM suggested that mandating the use of towel handling procedures would have a substantial impact on reducing emissions. PIGC suggested incorporating best management practices, such as towel handling procedures, as a viable low-cost alternative to low-VOC cleaning solutions.

The EPA's 2006 Offset Lithographic and Letterpress Printing CTG recommends mandating a towel handling program in conjunction with reduced VOC cleaning solution limits. Existing

Chapter 115 rules include these work practice requirements for facilities choosing the option to limit the cleaning solution to 70.0% VOC or less; however, these work practice requirements were not proposed in conjunction with the option to use cleaning solution with a VOC vapor pressure of less than 10.0 millimeters of mercury at 68 degrees Fahrenheit (20 degrees Celsius) since the commission expected most facilities were probably voluntarily following similar practices for safety reasons or have required work practices as part of their permit authorization. However, in response to comments received, the commission is revising the rule to include the CTG-recommended work practice requirements for offset lithographic printing operations using cleaning solutions with VOC vapor pressure less than 10.0 millimeters of mercury at 68 degrees Fahrenheit (20 degrees Celsius).

HSC supported requiring pressroom air pressure to be greater than the dryer air pressure to ensure 100.0% VOC capture efficiency in the printing process.

The commission appreciates the support. As noted in the preamble, this requirement is not a new requirement; the rule language was only moved to more appropriately indicate that this is a control requirement and not a monitoring or recordkeeping requirement.

PIGC commented that reducing the amount of alcohol substitutes to 3.0% by weight and no alcohol in the fountain solution would be a significant operational change that could require equipment modifications to accommodate the chemistry change and additional operator training on new procedures. PIAM requested §115.442(b)(1), (2)(C), and (3)(C) be revised to require the EPA's CTG-recommended fountain solution

content limit of 5.0% alcohol substitutes by weight and no alcohol in the fountain solution instead of the commission's proposed limit of 3.0% alcohol substitutes by weight and no alcohol in the fountain solution.

The EPA's 2006 CTG recommends limiting the fountain solution content to 5.0% alcohol substitutes or less by weight and no alcohol in the fountain solution. However, the existing Chapter 115 rules limit the fountain solution content to 3.0% alcohol substitutes or less by weight and no alcohol in the fountain solution. Because the existing Chapter 115 rules are incorporated into the EPA-approved SIP, implementing the less stringent CTG-recommended 5.0% limit for sources currently complying with these rules would be backsliding; therefore, the rules must retain the 3.0% limit for sources currently subject to the rule.

However, in response to these comments, the commission has revised the fountain solution content limits as requested for minor printing sources that are not currently subject to these rules. The commission agrees that imposing the more stringent 3.0% requirement on minor printing sources that are not currently subject to these rules is not necessary to satisfy RACT requirements for this CTG emission source category.

Section 115.446, Monitoring and Recordkeeping Requirements

HSC requested the commission revise the recordkeeping requirements in §115.446 to clearly indicate the content and the format of the records maintained to demonstrate continuous compliance with the rule.

The commission generally prefers not to specify the recordkeeping format unless it is necessary for rule compliance. The monitoring and recordkeeping requirements in adopted §115.446(b) require affected owners or operators to maintain sufficient records to demonstrate compliance with all applicable rule requirements; the rules in §115.446(b) ensure rule enforceability while providing affected owners or operators the flexibility to choose the appropriate option for their facility. No changes were made to the rule in response to this comment.

HSC requested the commission revise the recordkeeping requirements in §115.446 to require all records be maintained for at least five years. HSC suggested this change would assist investigators in determining company compliance over a longer period of time.

The commission contends that the two-year record retention time in §115.446 is sufficient to ensure records are adequate for an investigator to determine rule continuous compliance and is consistent with other recordkeeping requirements for various operations using VOC solvents in Chapter 115. Therefore, no changes were made in response to this comment.

PIAM requested the term "continuous" as used in §115.446(b)(2)(A) be defined as at least once every 15 minutes.

The commission agrees with the commenter's suggestion to clarify the term "continuous" as used in §115.446(b)(5)(A) as monitoring at least once every 15 minutes. The clarification is consistent with the commission's normal expectations for continuous monitoring and is sufficient for

demonstrating compliance with this monitoring requirement. The adopted §115.446(b)(5)(A) has been revised to clarify that operational parameter monitoring systems capable of measuring and recording data at least once every 15 minutes are sufficient to demonstrate compliance with this rule requirement.

PIAM suggested deleting the reference to carbon adsorption and solvent recovery systems in §115.446(b)(2)(A)(ii) and (iii) since this technology cannot be used to control emissions from heatset offset lithographic printing presses.

The commission did not solicit public comment on revising these control requirements for heatset presses and therefore the commenter's suggested revision is outside of the scope of this rulemaking. The commission appreciates the comment and may take the suggestion into consideration during any future rulemaking. No change was made in response to this comment.

PIAM suggested revising §115.446(b)(3)(B) and (5)(B) to require the use of batch logs to record the calculations used to determine the VOC concentration of each batch of fountain solution and cleaning solution prepared. PIAM suggested that using standardized batch logs would simplify the recordkeeping requirements for affected owners or operators and facilitate compliance investigations for state and local investigators.

The recordkeeping requirements are intended to provide affected owners or operators the flexibility to choose the most appropriate approach for their individual facility. The commission

prefers to specify the content instead of the format of the records. No changes were made to the rule based on this comment. However, the commission does agree that the use of a standardized batch log could facilitate compliance with the recordkeeping requirements for some affected sources, and sample batch logs may be included should the executive director decide to produce any guidance documents associated with this rule.

HSC opposed eliminating the requirement in §115.446(b)(3)(A) to monitor fountain solution alcohol concentration once every eight-hour shift. HSC favored requiring both monitoring and recordkeeping, as opposed to just recordkeeping.

The adopted §115.446(b)(3)(A) requires an affected owner or operator to determine the VOC concentration of each batch of fountain solution. Adopted §115.446(b)(3)(A) imposes the same requirements previously included in §115.446(4) except that adopted §115.446(b)(3)(A) eliminated the option to monitor the fountain solution alcohol concentration once per eight-hour shift because this option could allow the use of fountain solution with an unknown concentration and prevent the continuous demonstration of compliance with applicable content limits in §115.442.

The commission is providing an alternative option to the monitoring requirement in §115.446(b)(3)(B) that allows the use of analytical data to determine the VOC concentration of each batch of fountain solution. The option reduces the compliance burden for affected sources while maintaining sufficient information to demonstrate compliance. The rule requires the VOC concentration of each batch of fountain solution to be determined using analytical data that was

derived using the approved test methods in §115.445 along with the concentration and the proportion of each material used in the fountain solution. The information provided in these records is equivalent to the measurement data that would be generated using the alternative monitoring device. Additionally, in the 1993 draft Offset Lithographic CTG recommendations, the EPA suggested that recordkeeping requirements may be sufficient to demonstrate compliance with the content limits.

Section 115.449, Compliance Schedules

HSC supported revising the rule compliance date to December 1, 2010, because the rules are relatively simple and FCAA requires the HGB area to meet federal clean air standards as soon as possible to protect human health and welfare.

The March 1, 2011, compliance date marks the beginning of the subsequent ozone season for the DFW area following the rule effective date. Additionally, the March 1, 2011, compliance date provides adequate time for owners or operators of affected facilities to determine the most appropriate compliance strategies and implement any necessary changes. No changes have been made in response to this comment.

However, in response to other comments, the commission is adopting a March 1, 2012, compliance date for minor printing sources to provide additional time for these smaller sources to determine the most cost-effective compliance strategies and implement any necessary changes.

Miscellaneous

EPA commented that RACT for heatset offset lithographic printing presses should be federally enforceable. EPA requested additional explanation as to why it is reasonable to use permit conditions to implement RACT and requested a copy of the final permit(s) used in this RACT analysis. EPA requested copies of the documentation used to determine that all heatset offset lithographic presses in the DFW area meet RACT including copies of facility-specific information for each heatset press identified with uncontrolled emissions greater than 25 tpy located on a site with total emissions less than 50 tpy when uncontrolled, copies of the final permit(s) used in this analysis, and copies of any other applicable documentation.

The commission maintains that the overall VOC control level in the adopted Chapter 115, Subchapter E, Division 4 rules is equivalent to or more stringent than the EPA's 2006 Offset Lithographic and Letterpress Printing CTG recommendations and sufficient to fulfill RACT for offset lithographic printing operations in the DFW area. The commission must balance arbitrarily implementing the 2006 CTG recommendations with the potential for backsliding, enforceability considerations, and the possible impacts to sources that have already complied with the existing rules.

The commission also notes that in several instances the adopted Chapter 115 content limits are more stringent than EPA's 2006 CTG recommendations. The 2006 CTG recommends limiting the VOC content of cleaning solutions used in offset lithographic printing operations to less than 70.0% VOC by weight in conjunction with work practice standards. The adopted Chapter 115 rules retain

the more stringent cleaning solution content limit of 70.0% VOC or less by volume in conjunction with work practice standards. Assuming the VOC in the cleaning solvent used is kerosene, which is the VOC referenced in the 2006 CTG, the adopted Chapter 115 content limit of 70.0% VOC or less by volume for cleaning solutions is equivalent to 66.0% VOC by weight. EPA's 2006 CTG also recommends limiting the fountain solution content to 5.0% alcohol substitutes or less by weight and no alcohol in the fountain solution. To prevent potential backsliding for sources already required to comply with these state regulations, the adopted Chapter 115 rules retain the more stringent fountain solution content limit of 3.0% alcohol substitutes or less by weight and no alcohol in the fountain solution.

The commission maintains that the adopted Chapter 115 rules for heatset offset lithographic presses are at least as stringent as the EPA's 2006 CTG-recommended controls. The EPA's CTG recommends an add-on air pollution control device be required on each individual heatset offset lithographic press with the uncontrolled potential to emit 25 tpy of VOC or more from ink oil evaporated by the dryer. The rules in Chapter 115, Subchapter E, Division 4, require control devices, with a control efficiency of at least 90%, to be installed on heatset offset lithographic presses on a property in the DFW area with total uncontrolled VOC emissions of at least 50 tpy, which includes VOC emissions from ink oils evaporated by the press dryer and VOC in fountain and cleaning solutions. In Table 5-1 of the 1993 draft Offset Lithographic Printing CTG, the EPA estimates that 26% of the total uncontrolled VOC emissions from heatset offset lithographic printing operations are ink oils evaporated by the press dryer. Based on EPA's assumption, an individual heatset press located on a property with total uncontrolled VOC emissions of 50 tpy

would emit less than 13 tpy of ink oil VOC from the press dryer. Therefore, the Chapter 115 rules are effectively more stringent than the EPA's 2006 CTG RACT recommendations with regard to the applicability threshold for this control requirement. Additionally, the EPA's 2006 CTG-recommended exempting heatset presses used for book printing and heatset presses with a maximum web width of 22 inches or less from the add-on control device requirements. The existing Chapter 115 regulations do not exempt these sources from the control requirements, and the commission has not adopted these exemptions into the revised rules.

The EPA's CTG recommends requiring control equipment first installed before the effective date of rules implementing the CTG to have an overall control efficiency of 90% and control equipment first installed after the effective date of rules implementing the CTG to have an overall control efficiency of 95%. The commission disagrees with the EPA's CTG recommendation to correlate control device efficiency requirements with the first installation date of the control device regardless of where the equipment was installed. The commission contends imposing this policy may encourage the installation of older, less efficient equipment and may create potential backsliding issues. The policy may also create significant practical enforceability issues for commission investigators with regard to verifying the first installation date of the control equipment.

Regardless of the first installation date of the device, the EPA recommends providing the alternative option to reduce the control device outlet concentration to 20 ppmv as hexane on a dry basis to accommodate situations where the inlet VOC concentration is too low to demonstrate the

90% or 95% control efficiency. The Chapter 115 rules provide affected owners or operators of a heatset offset lithographic printing press the option to operate a control device to reduce VOC emissions from the press dryer exhaust vent by 90% by weight or maintain a maximum dryer exhaust outlet VOC concentration of 20 ppmv. The Chapter 115 alternative concentration limit is substantially preferable because it encourages VOC emission reductions without requiring add-on controls and implementing the EPA's recommended approach would penalize operations that were able to achieve the 20 ppmv limit without the installation of expensive add-on control devices.

Based on this analysis, the commission determined that the adopted Chapter 115 rules for offset lithographic printing operations provide an overall VOC control level that is at least equivalent to the 2006 CTG recommendations and are more effective and enforceable. Therefore, the revised Chapter 115, Subchapter E, Division 4 rules are sufficient to fulfill RACT for offset lithographic printing operations in the DFW and HGB areas. The commission is not relying on permit conditions to satisfy RACT requirements for this CTG emission source category and therefore has not provided the requested permit information.

EPA disagreed with the statement in the preamble to the offset lithographic printing rule revision that "the commission does not agree that applying RACT standards to future equipment installations is necessary to meet the mandates of the FCAA under §172(c)(1), §182(b)(2), and §182(f)." EPA stated that RACT should apply to both existing and new sources. EPA added that such statements may have implications for RACT approvability and requested the commission remove this language as well as any similar statements included elsewhere in the revisions.

The commission did not propose an exemption for new offset lithographic printing sources as part of this rulemaking. The statement referenced by the commenter was included in the preamble to the proposed rules as part of the justification for not implementing the EPA's 2006 CTG recommendation to require heatset presses installed after the effective date of the rulemaking to meet a more stringent control efficiency than required for those heatset presses installed prior to the rule effective date. However, as requested, the commission has removed this statement from the rule preamble.

HSC commented on the statement in the preamble to the offset lithographic printing rule revision that "the commission does not agree that applying RACT standards to future equipment installations is necessary to meet the mandates of the FCAA under §172(c)(1), §182(b)(2), and §182(f)." HSC commented that the commission has stated publically that additional reductions are necessary to achieve the ozone standard. HSC suggested the commission implement RACT in order to reduce risks to human health and welfare and advance attainment of the ozone standard in the HGB area.

In response to comments received from the EPA, the statement referenced by HSC was removed from the rule preamble. The statement referenced by the commenter was included at proposal as part of a discussion about the EPA's 2006 Offset Lithographic and Letterpress Printing CTG recommendations. Specifically, the EPA's CTG recommends requiring control equipment first installed before the effective date of rules implementing the CTG to have an overall control efficiency of 90% and control equipment first installed after the effective date of rules

implementing the CTG to have an overall control efficiency of 95%. The commission disagrees with the EPA's CTG recommendation to correlate control device efficiency requirements with the first installation date of the control device regardless of where the equipment was installed. The commission contends imposing this policy may encourage the installation of older, less efficient equipment and may create potential backsliding issues. The policy may also create significant practical enforceability issues for commission investigators with regard to verifying the first installation date of the control equipment. However, in response to comments received on the offset lithographic printing rule revision, the commission has removed this statement from the rule preamble.

Additionally, as described in Appendix D: Reasonably Available Control Technology Analysis of the HGB Attainment Demonstration SIP revision for the 1997 Eight-Hour Ozone Standard being adopted concurrently with this revision, the commission determined that all technologically and economically feasible RACT controls are implemented. The commission's analysis demonstrates that the RACT requirements are being fulfilled in the HGB area by: 1) identifying all CTG source categories of nitrogen oxides (NO_X) and VOC emissions and submitting negative declarations for categories where there are no emission sources within the HGB area; 2) identifying all non-CTG major sources of NO_X and VOC emissions; 3) identifying the state regulation that implements or exceeds RACT for each applicable CTG source category or non-CTG major emission source; and 4) describing the basis for concluding that these regulations fulfill RACT.

PIGC noted that the 1990 FCAA states that air quality standards will be established and these standards

must be attained and maintained to protect public health. PIGC commented that the printing industry is not a significant contributor to the overall air emissions in the DFW and HGB areas, especially considering the intense industrial nature of the petrochemical and energy industries in the HGB area. PIGC commented there are five to seven offset lithographic facilities in the HGB area that are permitted and already meeting best available control technology standards. PIGC estimated there are 80 companies in the HGB area that emit more than 3.0 tpy of VOC and 70% of these companies emit less than 10 tpy of VOC. PIGC commented that given the relatively low number of HGB area businesses that would be affected in the HGB area, the overall health benefit to the general public is negligible, and the minor environmental benefit does not outweigh the high cost to small businesses.

PIAM commented there are less than 140 printing companies in the DFW area that emit more than 3.0 tpy of VOC, estimated that 60% of these companies emit less than 10 tpy of VOC, and a good portion of the companies with more than 10 tpy are presently permitted and using BACT. PIAM concluded that the actual reductions achieved through this rulemaking will be minuscule in terms of the entire emissions inventory.

PS commented that the changes necessary to comply with the rules will cause considerable cost and disruption to the affected printing companies for a very small impact to the local environment.

The commission is aware that printing sources do not constitute a large proportion of the emissions in the DFW and HGB areas. However, revisions to the Chapter 115 offset lithographic printing rules are necessary to fulfill FCAA RACT requirements. In accordance with FCAA, §172(c)(1) and

§182(b)(2), the state is required to revise the DFW and HGB SIP to include RACT for VOC emission sources addressed in a CTG document issued between November 15, 1990, and the area's attainment date. On October 5, 2006, the EPA published a CTG document in lieu of national regulations for VOC emissions from Offset Lithographic Printing and Letterpress Printing (71 *Federal Register* 58745). The purpose of the offset lithographic printing rule revision is to implement RACT for this CTG emission source category.

PIAM commented that although it was supportive of most of the rules, it questioned the overall cost benefit of some of the changes. PIAM commented that many companies may find it difficult to absorb these additional compliance costs because the offset lithographic printing industry is currently undergoing massive restructuring from the digital media impact and economic duress because of the recession. PIAM commented the commission significantly underestimated the compliance costs associated with the cleaning solution content limits in §115.442(b)(4) and suggested using compliant solvents would likely cost 40% to 60% more than the cleaning solvents currently used by the printing industry. PIAM commented that changing from using alcohol in the fountain to an alcohol substitute increases the material costs for solvents by 40% to 60%, requires ink rollers to be re-configured or re-milled to meet different standards, requires additional training for press crews, and increases material wastes. PIAM estimated the cost of compliance with the rule requirements at $10,000 per ton of VOC reduction, estimated the average annual cost per facility would be $25,000, and provided additional details on how the cost estimate was derived.

PIGC commented that although it supports the portions of the rules that follow the EPA's 2006 Offset

Lithographic and Letterpress Printing CTG recommendations, it is concerned with the requirements for the low-VOC cleaning solvents because the higher cost and reduced effectiveness will significantly increase production costs. PIGC commented the additional costs incurred from complying with these new requirements will be passed on to the consumer and given the economic situation these additional costs could drive more printers out of business thus eliminating jobs, sales tax revenue, and property tax revenue. PIGC commented that requiring the use of low-VOC fountain solutions and cleaning solutions will increase product costs by approximately 40% over the traditional high-VOC solutions and estimated an average company could spend an additional $4,600 per year more for the same amount of low-VOC solution. PIGC commented that since low-VOC cleaning solution is generally less effective than traditional higher VOC products, more cleaning solution and time are necessary to adequately clean the press equipment and stated that given the average number of jobs run per day and the average number of presses most companies have, using low-VOC cleaning solution could increase labor cost by $14,400 to $19,200 per year. PIGC commented that while low vapor pressure cleaning solvents cost more than traditional cleaning solvents, they are a more effective alternative and cost less than the low-VOC cleaning solutions.

PS commented that low-VOC cleaning solutions take longer to clean and evaporate from the surface and an additional 20% to 40% more solvent is needed in order to effectively clean the printing blankets and cylinders. PS commented that low-VOC cleaning solutions leave residue on the press rollers and an additional 20% to 30% more solution is needed to remove the residue. PS commented that an additional rinsing agent was required to remove the residue left on the press system by some of the low-VOC cleaning solutions, which increase the overall time and expense associated with the cleaning process. PS commented that cleaning solutions used on presses with automatic wash systems have typically been

specified or approved for use by the press equipment manufacturer. PS stated the press equipment manufacturer will need to evaluate and approve the low-VOC cleaning solutions to ensure compatibility with the existing automatic wash systems. PS commented that low-VOC cleaning solutions cost $825 to $900 per 55 gallon drum of solvent while the traditional high-VOC cleaning solutions only cost $500 per 55 gallon drum of solvent.

The commission agrees that the cost estimates provided in the EPA's 2006 CTG and the estimates provided in the preamble to the proposed Chapter 115 rulemaking may underestimate the actual cost to affected sources in some situations. However, the commission has also reviewed other regulatory impact studies that identified feasible compliance options that are estimated to cost substantially less per ton of VOC emission reductions than the estimates provided in these comments. Although the exact fiscal impact associated with the adopted rules is expected to vary depending on the compliance options chosen and other site-specific variables, the commission maintains that the adopted rules are economically feasible and necessary to satisfy RACT requirements for this CTG emission source category.

To mitigate the financial impact of these environmental regulations, the adopted rules provide flexible compliance options for controlling and monitoring VOC emissions. The adopted rules provide several options for complying with the cleaning solution content limits including: reducing the VOC content of the cleaning solution; reducing the VOC content of the cleaning solution in conjunction with work practice standards; and using low vapor pressure cleaning solutions in conjunction with work practice standards. The adopted rules also provide several options for

compliance with fountain solution content limits including: reducing the alcohol content of the solution; reducing the alcohol content of the solution in combination with add-on refrigeration equipment; and using reformulated materials to eliminate alcohol in the solution. The adopted rules also provide options for monitoring the concentration of the fountain and cleaning solutions. The exact fiscal impacts of these rules will vary depending on the compliance and monitoring options chosen and other site-specific variables like types of solution used and methods of operation. The commission expects affected owners or operators will choose the options that are the most cost-effective for their operation.

In addition, the commission is extending the compliance date to provide an additional year for minor printing sources to comply with the rule requirements. The commission is adopting the March 1, 2012, compliance date for minor printing sources to provide additional time for these facilities to determine the most cost-effective compliance strategies and implement any necessary changes.

PIGC commented that 95% of commercial printers are small businesses with fewer than 100 employees and 65% have fewer than 10 employees. PIGC added that in the Texas Gulf Coast region, there are less than 20 printers that employ more than 100 people. PIGC commented that given the current economic situation, more flexibility and options must be offered to small businesses with limited financial and technological resources.

The commission agrees that it is important to provide small businesses with flexible compliance

options to mitigate the financial impact of these environmental regulations. For reasons discussed elsewhere in this preamble, the commission has revised the offset lithographic printing rules to include additional flexibility for small sources.

For the purpose of providing more flexibility to small sources, the commission examined the proposed fountain solution content limits. The EPA's 2006 CTG recommends limiting the fountain solution content to 5.0% alcohol substitutes or less by weight and no alcohol in the fountain solution. However, the existing Chapter 115 rules limit the fountain solution content to 3.0% alcohol substitutes or less by weight and no alcohol in the fountain solution. Since the existing Chapter 115 rules are incorporated into the EPA-approved SIP, implementing the less stringent CTG-recommended 5.0% limit for sources currently complying with these rules would be backsliding; therefore, the rules must retain the 3.0% limit for sources currently subject to the rules. However, the commission has revised the fountain solution content limits to 5.0% alcohol substitutes or less by weight and no alcohol in the fountain solution for minor printing sources that are not currently subject to these rules.

Additionally, the commission is extending the rule compliance date for smaller sources to March 1, 2012, to provide adequate time for compliance planning and preparation.

HSC commented that the 1999 study "Emissions Inventory for Texas Graphic Arts Area Sources" is too old to use to identify small or micro-businesses that would potentially be affected by this rulemaking. HSC added that the printing industry has changed considerably in the past decade, and small sheet-fed

and traditional presses have been replaced by Xerox™ style printing operations that rely on dry ink cartridges.

The commission agrees that the printing industry has changed considerably in recent years. However, the 1999 study "Emissions Inventory for Texas Graphic Arts Area Sources" is the most recent available analysis of area source offset lithographic printing facilities in Texas. The commission agrees that many printing companies may be using more advanced technology. However, the commission maintains that there are offset lithographic printing operations in the DFW and HGB areas and the adopted rules are necessary to fulfill RACT requirements for these sources. In addition, comments received on this rulemaking and discussed elsewhere in this preamble support the commission's conclusion that the majority of the offset lithographic printing operations in the state are small businesses.

SUBCHAPTER E: SOLVENT-USING PROCESSES

DIVISION 4: OFFSET LITHOGRAPHIC PRINTING

§§115.440, 115.441, 115.442, 115.443, 115.445, 115.446, 115.449

STATUTORY AUTHORITY

The new and amended sections are adopted under Texas Water Code (TWC), §5.102, concerning General Powers, that provides the commission with the general powers to carry out its duties under the TWC; TWC, §5.103, concerning Rules, that authorizes the commission to adopt rules necessary to carry out its powers and duties under the TWC; TWC, §5.105, concerning General Policy, that authorizes the commission by rule to establish and approve all general policy of the commission; and under Texas Health and Safety Code (THSC), §382.017, concerning Rules, that authorizes the commission to adopt rules consistent with the policy and purposes of the Texas Clean Air Act. The new and amended sections are also adopted under THSC, §382.002, concerning Policy and Purpose, that establishes the commission's purpose to safeguard the state's air resources, consistent with the protection of public health, general welfare, and physical property; §382.011, concerning General Powers and Duties, that authorizes the commission to control the quality of the state's air; and §382.012, concerning State Air Control Plan, that authorizes the commission to prepare and develop a general, comprehensive plan for the proper control of the state's air. The new and amended sections are also adopted under THSC, §382.016, concerning Monitoring Requirements; Examination of Records, that authorizes the commission to prescribe reasonable requirements for the measuring and monitoring of air contaminant emissions; and §382.021, concerning Sampling Methods and Procedures, that authorizes the commission to prescribe the sampling methods and procedures to determine compliance with its rules. The new and amended sections

are also adopted under Federal Clean Air Act (FCAA), 42 United States Code (USC), §§7401, *et seq.*, which requires states to submit state implementation plan revisions that specify the manner in which the NAAQS will be achieved and maintained within each air quality control region of the state.

The new and amended sections implement THSC, §§382.002, 382.011, 382.012, 382.016, 382.017, and 382.021, and FCAA, 42 USC, §§7401 *et seq*.

§115.440. Applicability and Definitions.

(a) Applicability. The provisions in this division (relating to Offset Lithographic Printing) apply to offset lithographic printing lines located in the Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas, as defined in §115.10 of this title (relating to Definitions).

(b) Definitions. Unless specifically defined in the Texas Clean Air Act (Texas Health and Safety Code, Chapter 382) or in §§3.2, 101.1, and 115.10 of this title (relating to Definitions), the terms in this division have the meanings commonly used in the field of air pollution control. In addition, the following meanings apply unless the context clearly indicates otherwise.

(1) **Alcohol**--Any of the hydroxyl-containing organic compounds with a molecular weight equal to or less than 74.12, which includes methanol, ethanol, propanol, and butanol.

(2) **Alcohol substitutes**--Nonalcohol additives that contain volatile organic compounds and are used in the fountain solution to reduce the surface tension of water or prevent ink piling.

(3) **Batch**--A supply of fountain solution or cleaning solution that is prepared and used without alteration until completely used or removed from the printing process.

(4) **Cleaning solution**--Liquids used to remove ink and debris from the operating surfaces of the printing press and its parts.

(5) **Fountain solution**--A mixture of water, nonvolatile printing chemicals, and a liquid additive that reduces the surface tension of the water so that it spreads easily across the printing plate surface. The fountain solution wets the non-image areas so that the ink is maintained within the image areas.

(6) **Heatset**--Any operation where heat is required to evaporate ink oil from the printing ink.

(7) **Lithography**--A plane-o-graphic printing process where the image and non-image areas are on the same plane of the printing plate. The image and non-image areas are chemically differentiated so the image area is oil receptive and the non-image area is water receptive.

(8) **Major printing source**--All offset lithographic printing lines located on a property with combined uncontrolled emissions of volatile organic compounds (VOC) greater than or equal to:

(A) 50 tons of VOC per calendar year in the Dallas-Fort Worth area, as defined in §115.10 of this title (relating to Definitions); or

(B) 25 tons of VOC per calendar year in the Houston-Galveston-Brazoria area, as defined in §115.10 of this title.

(9) **Minor printing source**--All offset lithographic printing lines located on a property with combined uncontrolled emissions of volatile organic compounds (VOC) less than:

(A) 50 tons of VOC per calendar year in the Dallas-Fort Worth area, defined in §115.10 of this title (relating to Definitions); or

(B) 25 tons of VOC per calendar year in the Houston-Galveston-Brazoria area, as defined in §115.10 of this title.

(10) **Non-heatset**--Any operation where the printing inks are set without the use of heat. For the purposes of this division, ultraviolet-cured and electron beam-cured inks are considered non-heatset.

(11) **Offset lithography**--A printing process that transfers the ink film from the lithographic plate to an intermediary surface (blanket) that, in turn, transfers the ink film to the substrate.

(12) **Volatile organic compound (VOC) composite partial pressure**--The sum of the partial pressures of the compounds that meet the definition of VOC in §101.1 of this title (relating to Definitions). The VOC composite partial pressure is calculated as follows.

Figure: 30 TAC §115.440(b)(12)

$$PP_C = \sum_{i=1}^{n} \frac{\frac{W_i}{MW_i} \times VP_i}{\frac{W_w}{MW_w} + \sum_{e=1}^{n} \frac{W_e}{MW_e} + \sum_{i=1}^{n} \frac{W_i}{MW_i}}$$

Where:

PP_c = the VOC composite partial pressure of a solution at 20 degrees Celsius, millimeters of mercury (mm Hg);

W_i = the weight of VOC i, grams (g);

MW_i = the molecular weight of VOC i, g/g-mole;

VP_i = the vapor pressure of VOC i at 20 degrees Celsius, mm Hg;

W_w = the weight of water, g;

MW_w = the molecular weight of water, g/g-mole;

W_e = the weight of non-water exempt compound e, g; and

MW_e = the molecular weight of non-water exempt compound e, g/g-mole.

§115.441. Exemptions.

(a) In the Dallas-Fort Worth and Houston-Galveston-Brazoria areas, as defined in §115.10 of this title (relating to Definitions), the owner or operator of all offset lithographic printing lines located on a property with combined emissions of volatile organic compounds (VOC) less than 3.0 tons per calendar year (tpy) when uncontrolled, is exempt from the requirements in this division (relating to Offset Lithographic Printing) except as specified in §115.446 of this title (relating to Monitoring and Recordkeeping Requirements).

(b) In the Dallas-Fort Worth and Houston-Galveston-Brazoria areas, the owner or operator of a minor printing source, as defined in §115.440 of this title (relating to Applicability and Definitions):

(1) is exempt from the requirements in this division until March 1, 2012;

(2) may exempt up to 110 gallons of cleaning solution per calendar year from the content limits in §115.442(c)(1) of this title (relating to Control Requirements);

(3) may exempt any press with a total fountain solution reservoir less than 1.0 gallons from the fountain solution content limits in §115.442(c)(2) - (4) of this title; and

(4) may exempt any sheet-fed press with a maximum sheet size of 11.0 inches by 17.0 inches or less from the fountain solution content limits in §115.442(c)(2) of this title.

(c) Beginning March 1, 2011, the requirements in §115.442(a) of this title and §115.446(a) of this title no longer apply in the Dallas-Fort Worth and Houston-Galveston-Brazoria areas.

§115.442. Control Requirements.

(a) In the Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas, as defined in §115.10 of this title (relating to Definitions), the following control requirements apply. Beginning March 1, 2011, this subsection no longer applies in the Dallas-Fort Worth and Houston-Galveston-Brazoria areas.

(1) The owner or operator of an offset lithographic printing line that uses solvent-containing ink shall limit emissions of volatile organic compounds (VOC) as follows.

(A) The owner or operator of a heatset web offset lithographic printing press that uses alcohol in the fountain solution shall maintain total fountain solution alcohol to 5.0% or less (by volume). Alternatively, a standard of 10.0% or less (by volume) alcohol may be used if the fountain solution containing alcohol is refrigerated to less than 60 degrees Fahrenheit (15.5 degrees Celsius).

(B) The owner or operator of a non-heatset web offset lithographic printing press that prints newspaper and that uses alcohol in the fountain solution shall eliminate the use of alcohol in

the fountain solution. Nonalcohol additives or alcohol substitutes can be used to accomplish the total elimination of alcohol use.

(C) The owner or operator of a non-heatset web offset lithographic printing press that does not print newspaper and that uses alcohol in the fountain solution shall maintain the use of alcohol at 5.0% or less (by volume). Alternatively, a standard of 10.0% or less (by volume) alcohol may be used if the fountain solution is refrigerated to less than 60 degrees Fahrenheit (15.5 degrees Celsius).

(D) The owner or operator of a sheet-fed offset lithographic printing press shall maintain the use of alcohol at 10.0% or less (by volume). Alternatively, a standard of 12.0% or less (by volume) alcohol may be used if the fountain solution is refrigerated to less than 60 degrees Fahrenheit (15.5 degrees Celsius).

(E) The owner or operator of any type of offset lithographic printing press shall be considered in compliance with the fountain solution limitations of this paragraph if the only VOC in the fountain solution are nonalcohol additives or alcohol substitutes, so that the concentration of VOC in the fountain solution is 3.0% or less (by weight). The fountain solution must not contain any isopropyl alcohol.

(F) The owner or operator of an offset lithographic printing press shall reduce VOC emissions from cleaning solutions by one of the following methods:

(i) using cleaning solutions with a VOC content of 50% or less (by volume, as used);

(ii) using cleaning solutions with a VOC content of 70% or less (by volume, as used) and incorporating a towel handling program that ensures that all waste ink, solvents, and cleanup rags are stored in closed containers until removed from the site by a licensed disposal/cleaning service; or

(iii) using cleaning solutions with a VOC composite partial vapor pressure less than or equal to 10.0 millimeters of mercury at 68 degrees Fahrenheit (20 degrees Celsius).

(2) The owner or operator of a heatset offset lithographic printing press shall operate a control device to reduce VOC emissions from the press dryer exhaust vent by 90% by weight or maintain a maximum dryer exhaust outlet VOC concentration of 20 parts per million by volume (ppmv), whichever is less stringent when the press is in operation. The dryer air pressure must be lower than the pressroom air pressure at all times when the press is operating to ensure the dryer has a capture efficiency of 100%.

(b) In the Dallas-Fort Worth and Houston-Galveston-Brazoria areas, the following control requirements apply to the owner or operator of a major printing source, as defined in §115.440 of this title (relating to Applicability and Definitions), in accordance with the appropriate compliance date specified in §115.449(e) and (g) of this title (relating to Compliance Schedules).

(1) The owner or operator of an offset lithographic printing press shall limit the VOC content of the cleaning solution, as applied, to:

(A) 50.0% VOC or less by volume;

(B) 70.0% VOC or less by volume if the facility has a towel handling program in place that ensures all waste ink, solvents, and cleanup rags are stored in closed containers until removed from the site by a licensed disposal or cleaning service; or

(C) a VOC composite partial vapor pressure less than or equal to 10.0 millimeters of mercury at 68 degrees Fahrenheit (20 degrees Celsius) if the facility has a towel handling program in place that ensures all waste ink, solvents, and cleanup rags are stored in closed containers until removed from the site by a licensed disposal or cleaning service.

(2) The owner or operator of a sheet-fed offset lithographic printing press shall limit the VOC content of the fountain solution, as applied, to:

(A) 5.0% alcohol or less by weight;

(B) 8.5% alcohol or less by weight if the fountain solution is refrigerated below 60 degrees Fahrenheit (15.5 degrees Celsius); or

(C) 3.0% alcohol substitutes or less by weight and no alcohol in the fountain solution.

(3) The owner or operator of a non-heatset web offset lithographic printing press shall limit the VOC content of the fountain solution, as applied, to 3.0% alcohol substitutes or less by weight and no alcohol in the fountain solution.

(4) The owner or operator of a heatset web offset lithographic printing press shall limit the VOC content of the fountain solution, as applied, to:

(A) 1.6% alcohol or less by weight;

(B) 3.0% alcohol or less by weight if the fountain solution is refrigerated below 60 degrees Fahrenheit (15.5 degrees Celsius); or

(C) 3.0% alcohol substitutes or less by weight and no alcohol in the fountain solution.

(5) The owner or operator of a heatset offset lithographic printing press shall operate a control device to reduce VOC emissions from the press dryer exhaust vent by at least 90% by weight or maintain a maximum dryer exhaust outlet VOC concentration of 20 ppmv or less, whichever is less stringent when the press is in operation. The dryer air pressure must be lower than the pressroom air pressure at all times when the press is operating to ensure the dryer has a capture efficiency of 100%.

(c) In the Dallas-Fort Worth and Houston-Galveston-Brazoria areas, the following control requirements apply to the owner or operator of a minor printing source, as defined in §115.440 of this title, in accordance with the appropriate compliance date specified in §115.449(f) and (g) of this title.

(1) The owner or operator of an offset lithographic printing press shall limit the VOC content of the cleaning solution, as applied, to:

(A) 50.0% VOC or less by volume;

(B) 70.0% VOC or less by volume if the facility has a towel handling program in place that ensures all waste ink, solvents, and cleanup rags are stored in closed containers until removed from the site by a licensed disposal or cleaning service; or

(C) a VOC composite partial vapor pressure less than or equal to 10.0 millimeters of mercury at 68 degrees Fahrenheit (20 degrees Celsius) if the facility has a towel handling program in place that ensures all waste ink, solvents, and cleanup rags are stored in closed containers until removed from the site by a licensed disposal or cleaning service.

(2) The owner or operator of a sheet-fed offset lithographic printing press shall limit the VOC content of the fountain solution, as applied, to:

(A) 5.0% alcohol or less by weight;

(B) 8.5% alcohol or less by weight if the fountain solution is refrigerated below 60 degrees Fahrenheit (15.5 degrees Celsius); or

(C) 5.0% alcohol substitutes or less by weight and no alcohol in the fountain solution.

(3) The owner or operator of a non-heatset web offset lithographic printing press shall limit the VOC content of the fountain solution, as applied, to 5.0% alcohol substitutes or less by weight and no alcohol in the fountain solution.

(4) The owner or operator of a heatset web offset lithographic printing press shall limit the VOC content of the fountain solution, as applied, to:

(A) 1.6% alcohol or less by weight;

(B) 3.0% alcohol or less by weight if the fountain solution is refrigerated below 60 degrees Fahrenheit (15.5 degrees Celsius); or

(C) 5.0% alcohol substitutes or less by weight and no alcohol in the fountain solution.

§115.443. Alternate Control Requirements.

In the Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas, as defined in §115.10 of this title (relating to Definitions), alternate methods of demonstrating and documenting continuous compliance with the applicable control requirements or exemption criteria in this division (relating to Offset Lithographic Printing) may be approved by the executive director in accordance with §115.910 of this title (relating to Availability of Alternate Means of Control) if emission reductions are demonstrated to be substantially equivalent.

§115.445. Approved Test Methods.

In the Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas, as defined in §115.10 of this title (relating to Definitions), compliance with the requirements in this division (relating to Offset Lithographic Printing) must be determined by applying the following test methods, as appropriate:

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

(2) Test Method 24 (40 CFR Part 60, Appendix A) for determining the volatile organic compound content and density of printing inks and related coatings;

(3) Test Method 25 (40 CFR Part 60, Appendix A) for determining total gaseous nonmethane organic emissions as carbon with the modification that the probe and filter should be heated

to the gas stream temperature, typically closer to 350 degrees Fahrenheit (177 degrees Celsius) to prevent condensation;

(4) Test Methods 25A or 25B (40 CFR Part 60, Appendix A) for determining total gaseous organic concentrations using flame ionization or nondispersive infrared analysis;

(5) the United States Environmental Protection Agency guidelines series document "Procedures for Certifying Quantity of Volatile Organic Compounds Emitted by Paint, Ink, and Other Coatings" (EPA-450/3-84-019, effective December 1984);

(6) additional performance test procedures described in 40 CFR §60.444 (effective October 18, 1983);

(7) minor modifications to these test methods if approved by the executive director; and

(8) test methods other than those specified in this section if validated by 40 CFR Part 63, Appendix A, Test Method 301 (effective December 29, 1992) and approved by the executive director.

§115.446. Monitoring and Recordkeeping Requirements.

(a) In the Dallas-Fort Worth, El Paso, and Houston-Galveston-Brazoria areas, as defined in §115.10 of this title (relating to Definitions), the following monitoring and recordkeeping requirements

apply. Beginning March 1, 2011, this subsection no longer applies in the Dallas-Fort Worth and Houston-Galveston-Brazoria areas.

(1) The owner or operator of a heatset offset lithographic printing press shall install, calibrate, maintain, and operate a temperature monitoring device, according to the manufacturer's instructions, at the outlet of the control device. The temperature monitoring device must be equipped with a continuous recorder and must have an accuracy of ±0.5 degrees Fahrenheit, or alternatively ±1.0% of the temperature being monitored.

(2) The owner or operator of any offset lithographic printing press shall install and maintain monitors to continuously measure and record operational parameters of any emission control device installed to meet applicable control requirements on a regular basis. Such records must be sufficient to demonstrate proper functioning of those devices to design specifications, including:

(A) the exhaust gas temperature of direct-flame incinerators or the gas temperature immediately upstream and downstream of any catalyst bed;

(B) the total amount of volatile organic compounds (VOC) recovered by a carbon adsorption or other solvent recovery system during a calendar month; and

(C) the exhaust gas VOC concentration of any carbon adsorption system, as defined in §115.10 of this title, to determine if breakthrough has occurred.

(3) The dryer pressure must be maintained lower than the press room air pressure such that air flows into the dryer at all times when the offset lithographic printing press is operating. A 100% emissions capture efficiency for the dryer must be demonstrated using an air flow direction measuring device.

(4) The owner or operator of any offset lithographic printing press shall monitor fountain solution alcohol concentration with a refractometer or a hydrometer that is corrected for temperature at least once per eight-hour shift or once per batch, whichever is longer. The refractometer or hydrometer must have a visual, analog, or digital readout with an accuracy of 0.5% VOC. A standard solution must be used to calibrate the refractometer for the type of alcohol used in the fountain. The VOC content of the fountain solution may be monitored with a conductivity meter if it is determined that a refractometer or hydrometer cannot be used for the type of VOC in the fountain solution. The conductivity meter reading for the fountain solution must be referenced to the conductivity of the incoming water.

(5) The owner or operator of any offset lithographic printing press using refrigeration equipment on the fountain solution in order to comply with §115.442(a)(1)(A), (C), or (D) of this title (relating to Control Requirements) shall monitor the temperature of the fountain solution reservoir at least once per hour. Alternatively, the owner or operator of any offset lithographic printing press using refrigeration equipment on the fountain solution shall install, maintain, and continuously operate a temperature monitor of the fountain solution reservoir. The temperature monitor must be attached to a continuous recording device such as a strip chart, recorder, or computer.

(6) For any offset lithographic printing press with automatic cleaning equipment, flow meters are required to monitor water and cleaning solution flow rates. The flow meters must be calibrated so that the VOC content of the mixed solution complies with the requirements of §115.442(a)(1) of this title.

(7) The owner or operator of any offset lithographic printing press shall maintain the results of any testing conducted at an affected facility in accordance with the provisions specified in §115.445 of this title (relating to Approved Test Methods).

(8) The owner or operator of any offset lithographic printing press shall maintain all records at the affected facility for at least two years and make such records available upon request to authorized representatives of the executive director, the United States Environmental Protection Agency, or any local air pollution agency with jurisdiction.

(b) In the Dallas-Fort Worth and Houston-Galveston-Brazoria areas, the following monitoring and recordkeeping requirements apply in accordance with the appropriate compliance date specified in §115.449(e) - (g) of this title (relating to Compliance Schedules).

(1) The owner or operator of an offset lithographic printing press claiming an exemption in §115.441 of this title (relating to Exemptions) shall maintain records sufficient to demonstrate continuous compliance with the applicable exemption criteria. For example, maintaining records of ink, cleaning solvent, and fountain solution usage may be sufficient to demonstrate compliance with the

exemption provided in §115.441(a) of this title for sources located on a property with combined VOC emissions less than 3.0 tpy when uncontrolled.

(2) The owner or operator of an offset lithographic printing press shall use one of the following options to demonstrate compliance with the cleaning solution content limits in §115.442(b)(1) or (c)(1) of this title.

(A) Flow meters must be used to monitor the water and cleaning solution flow rates on a press with automatic cleaning equipment. The flow meters must be installed, maintained, and operated according to the manufacturer's instructions. The flow meters must be calibrated so that the VOC concentration of the cleaning solution complies with the requirements of §115.442(b)(1) or (c)(1) of this title. Records must be sufficient to demonstrate continuous compliance with the cleaning solution content limits in §115.442(b)(1) or (c)(1) of this title.

(B) The VOC concentration of each batch of cleaning solution must be determined using analytical data derived from the material safety data sheet (MSDS) or equivalent information from the supplier that was derived using the approved test methods in §115.445 of this title. The concentration of all VOC used to prepare the batch and, if diluted prior to use, the proportions that each of these materials is used must be recorded for each batch of cleaning solution. Records must be sufficient to demonstrate continuous compliance with the cleaning solution content limits in §115.442(b)(1) or (c)(1) of this title.

(3) The owner or operator of an offset lithographic printing press shall use one of the following options to demonstrate compliance with the fountain solution content limits in §115.442(b)(2) - (4) or (c)(2) - (4) of this title.

(A) The VOC concentration of each batch of fountain solution must be monitored using a refractometer or a hydrometer that is corrected for temperature. The refractometer or hydrometer must have a visual, analog, or digital readout with an accuracy of 0.5% VOC. A standard solution must be used to calibrate the refractometer for the type of alcohol used in the fountain solution. The VOC content of the fountain solution may be monitored with a conductivity meter if it is determined that a refractometer or hydrometer cannot be used for the type of VOC in the fountain solution. The conductivity meter reading for the fountain solution must be referenced to the conductivity of the incoming water. Records must be sufficient to demonstrate continuous compliance with the fountain solution content limits in §115.442(b)(2) - (4) or (c)(2) - (4) of this title.

(B) The VOC concentration of each batch fountain solution must be determined using analytical data from the MSDS or equivalent information from the supplier that was derived using the approved test methods in §115.445 of this title. The concentration of all alcohols or alcohol substitutes used to prepare the batch and, if diluted prior to use, the proportions that each of these materials is used must be recorded for each batch of fountain solution. Records must be sufficient to demonstrate continuous compliance with the fountain solution content limits in §115.442(b)(2) - (4) or (c)(2) - (4) of this title.

(4) The owner or operator of an offset lithographic printing press using refrigeration equipment on the fountain solution reservoir shall monitor and record the fountain solution temperature at least once per hour. Temperature monitoring devices must be installed, maintained, and operated according to the manufacturer's specifications. Records must be sufficient to demonstrate continuous compliance with the fountain solution content limits in §115.442(b)(2) and (4) or (c)(2) and (4) of this title.

(5) The owner or operator of a heatset web offset lithographic printing press shall comply with the following monitoring and recordkeeping requirements to demonstrate continuous compliance with the control requirements in §115.442(b)(5) of this title.

(A) Operational parameters of any emission control device installed to comply with the requirements in §115.442(b)(5) of this title must be continuously measured and recorded. Monitors must be installed, calibrated, maintained, and operated according to the manufacturer's instructions. Temperature monitors must be equipped with a continuous recorder and have an accuracy of ±0.5 degrees Fahrenheit or ±1.0% of the temperature being monitored, whichever is less stringent. Measuring and recording the operational parameters of the control device at least once every 15 minutes is sufficient to demonstrate compliance with this subparagraph. Records must be sufficient to demonstrate proper functioning of the device to design specifications and must include:

(i) the exhaust gas temperature of direct-flame incinerators and/or the gas temperature immediately upstream and downstream of any catalyst bed;

(ii) the total amount of VOC recovered by a carbon adsorption system or other solvent recovery system per calendar month; and

(iii) the exhaust gas VOC concentration of any carbon adsorption system to determine if breakthrough has occurred.

(B) An air flow direction measuring device must be used to demonstrate the dryer meets the 100% capture efficiency required in §115.442(b)(5) of this title.

(6) The owner or operator of an offset lithographic printing press shall maintain the results of any tests conducted using the approved test methods in §115.445 of this title.

(7) The owner or operator of an offset lithographic printing press shall maintain all records for at least two years and make such records available upon request to authorized representatives of the executive director, the United States Environmental Protection Agency, or any local air pollution agency with jurisdiction.

§115.449. Compliance Schedules.

(a) In El Paso County, all offset lithographic printing presses must be in compliance with §§115.442, 115.443, 115.445, and 115.446 of this title (relating to Control Requirements; Alternate Control Requirements; Approved Test Methods; and Monitoring and Recordkeeping Requirements) as soon as practicable, but no later than November 15, 1996.

(b) In Collin, Dallas, Denton, and Tarrant Counties, all offset lithographic printing presses on a property that, when uncontrolled, emit a combined weight of volatile organic compounds (VOC) equal to or greater than 50 tons per calendar year, must be in compliance with §§115.442(a), 115.443, 115.445, and 115.446(a) of this title as soon as practicable, but no later than December 31, 2000.

(c) In Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties, all offset lithographic printing presses on a property that, when uncontrolled, emit a combined weight of VOC equal to or greater than 25 tons per calendar year, must be in compliance with §§115.442(a), 115.443, 115.445, and 115.446(a) of this title as soon as practicable, but no later than December 31, 2002.

(d) In Ellis, Johnson, Kaufman, Parker, and Rockwall Counties, the owner or operator of all offset lithographic printing presses on a property that, when uncontrolled, emit a combined weight of VOC equal to or greater than 50 tons per calendar year, shall comply with §§115.442(a), 115.443, 115.445, and 115.446(a) of this title as soon as practicable, but no later than March 1, 2009.

(e) The owner or operator of a major printing source, as defined in §115.440 of this title (relating to Applicability and Definitions), in the Dallas-Fort Worth or Houston-Galveston-Brazoria areas, as defined in §115.10 of this title (relating to Definitions), shall comply with the requirements in this division no later than March 1, 2011, except as specified in subsections (b), (c), and (d) of this section.

(f) The owner or operator of a minor printing source, as defined in §115.440 of this title, in the Dallas-Fort Worth or Houston-Galveston-Brazoria areas, shall comply with the requirements in this division no later than March 1, 2012.

(g) The owner or operator of an offset lithographic printing line in the Dallas-Fort Worth or Houston-Galveston-Brazoria areas that becomes subject to this division on or after the date specified in subsections (e) or (f) of this section, shall comply with the requirements in this division no later than 60 days after becoming subject.