

The Texas Natural Resource Conservation Commission (commission) adopts new §115.510, concerning Cutback Asphalt Definitions, and amendments to §115.512, concerning Control Requirements; §115.513, concerning Alternate Control Requirements; §115.515, concerning Testing Requirements; and §115.516, concerning Recordkeeping Requirements, and a revision to the state implementation plan concerning these amendments. Sections 115.510, 115.512, 115.513, 115.515, and 115.516 are adopted with changes to the proposed text as published in the April 23, 1999, issue of the *Texas Register* (24 TexReg 3178).

The commission adopts the removal of references to “emulsified asphalt” in §§115.512(3), 115.515(1), and 115.516 and the substitution in the appropriate context of the terms “asphalt emulsion,” “cutback asphalt,” “exempt cutback asphalt,” and “conventional cutback asphalt,” as defined in new §115.510. The commission adopts the amendment to §115.512(1) to change the total annual volume of cutback use in Nueces County from 8.0% to 7.0%, and the amendment to §115.512(3) to refer to both use and production of asphalt emulsion. In §115.513, the word “section” is changed to “division.”

EXPLANATION OF ADOPTED RULES

In the 1970's, the United States Environmental Protection Agency (EPA) identified cutback mixes, commonly known as “cold mixes,” as a significant source of volatile organic compounds (VOCs) and urged states to promulgate rules which limit their manufacture and use. Since EPA's 1977 Control Technique Guideline (CTG) report (*Control of Volatile Organic Compounds from the Use of Cutback Asphalt*, EPA-450/2-77-037), significant progress has been made by state agencies and the industry to

more clearly identify and define the emissions from these mixes, as well as develop new mixes with fewer VOC emissions (e.g., emulsified cold mixes with little or no added solvents).

Over the past decades, the industry has been developing new cold mixes to meet market demands for alternative mixes with equal or fewer VOC emissions, but with equivalent road strengths. Most recent EPA memoranda and industry correspondence show that several new alternative cold mixes have been developed which have the same, or fewer, VOC emissions than traditional cutback asphalt cold mixes. These alternative mixtures use heavier petroleum agents in lieu of the lighter solvents. However, the existing rule language does not allow for these materials to be used as a substitute for cutback asphalt, and no language either in the state rule or in EPA guidance documents adequately defines “emulsified asphalt” to be inclusive of all compliant alternative mixes.

Cutback asphalt has a significant amount of light petroleum distillate (usually diesel, kerosene, or naphtha) added at either the refinery or at the asphalt plant, and is used principally for patching or emergency repairs. Emulsified asphalt, also used for such repairs, contains some proportion of the light petroleum distillates combined with a non-volatile emulsifying agent (e.g., water or soap) to dilute the VOC emissions. These mixes are commonly referred to as “cold mixes” as the mix temperatures are lower than those used for standard hot mix asphalt pavements. The emissions from these cold mixes occur in equal proportion during the manufacture and storage, although over different time periods. The VOCs flash off quickly during manufacture and evaporate over time into the ambient air during storage in outdoor piles and after application.

Cold mixes are categorized by the amount of solvents added to the liquid asphalt and include rapid-cure, medium-cure, and slow-cure cutbacks and emulsions, containing average added solvents of 20%, 14%, 16%, and 7.0%, respectively. The amount of VOC emissions from cold mixes are higher than VOC emissions from hot mixes (up to seven pounds VOC/ton cold mix as compared to an average of 0.2 pounds VOC/ton hot mix).

Currently, Chapter 115, Subchapter F regulates the manufacture, use, and sale of cutback asphaltic mixes in the designated ozone nonattainment counties (Dallas, Denton, Collin, Tarrant, El Paso, Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, Waller, Jefferson, Orange, and Hardin Counties); as well as a former ozone nonattainment county (Nueces County). According to §115.512(2), no one in the nonattainment areas may use, apply, sell, or buy “cutback asphalt containing VOC solvents for paving roadways, driveways, or parking lots during the peak ozone generating period from April 16 to September 15 of any year.” Section 115.512(3) allows the use of “asphalt emulsions,” with certain VOC restrictions, to comply with §115.512(2). To be produced in a nonattainment area during the peak ozone generating period, the emulsified mixes must conform with American Society of Testing and Materials (ASTM) Test Method D 244 (1977) as referenced in §115.515(1).

A new section, §115.510, concerning Cutback Asphalt Definitions, includes definitions of “asphalt emulsion,” “cutback asphalt,” “exempt cutback asphalt,” and “conventional cutback asphalt.” The adopted new §115.510 includes all definitions used exclusively within the Chapter 115 cutback asphalt rules. In separate rulemaking, the commission is deleting the definition of “cutback asphalt” from

§115.10, concerning Definitions (see the July 16, 1999 issue of the *Texas Register*). The definition for “exempt cutback asphalt” requires testing criteria using ASTM Test Method D 402 (1997) which is more suited for solvent-based mixes and has additional laboratory safety considerations.

The revisions will allow companies the flexibility to use any available substitute material which meets project specifications, but maintains the VOC emissions compliance demonstration criteria specified in §115.515 and §115.516 involving the appropriate ASTM Test Method. These changes will give flexibility to industry, update the rule to match current scientific knowledge, and still insure VOC emission reductions in nonattainment areas.

The use of cutback asphalt in ozone nonattainment areas is currently limited to 7.0% of total annual volume averaged over a two-year period except in Nueces County where the current limit is 8.0%. The amendments will change the limit in Nueces County to 7.0% to conform with limits in nonattainment areas. The average annual use of cutback asphalt in nonattainment areas has been in the range of 3.5% to 4.0%. While no definitive records of cutback use in Nueces County are readily available, Texas Department of Transportation (TxDOT) believes that the use in Nueces County is comparable to that in nonattainment areas. Therefore, this change is not anticipated to create any operational change, but will add uniformity in standards for all regulated areas.

Historically, §115.512(3) has been interpreted to apply to both use and production of the applicable asphalt. The inclusion of the words “or produced” will add clarity to the existing intent. Certain

grammatical changes have been made in §§115.512, 115.513, 115.515, and 115.516 to add clarity, remove redundancies, and improve readability.

FINAL REGULATORY IMPACT ANALYSIS

The commission has reviewed the rulemaking in light of the regulatory analysis requirements of Texas Government Code, §2001.0225, and has determined that the rulemaking is not subject to §2001.0225. “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, productivity, competition, jobs, the environment, or the public health and safety of the state or a sector of the state. Specifically, the amendments to the rules are not anticipated to 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 in any new way because affected facilities are required to meet the criteria contained in §115.512(3)(A)-(D), which remain unchanged. These criteria limit VOC content to 12% by weight or the following limitations, whichever is more stringent: 0.5% by weight for seal coats; 3.0% by weight for chip seals when dusty or dirty aggregate is used; 8.0% by weight for mixing with open graded aggregate with less than 1.0% by weight of dust or clay-like materials adhering to the coarse aggregate fraction (1/4 inch in diameter or greater); and 12% by weight for mixing with dense graded aggregate when used to produce a mix designed to have 10% or less voids when fully compacted. At present, affected areas use only a fraction of the allowable cutback volume, and the rule changes will not alter these areas’ obligations relative to the National Ambient Air Quality Standards (NAAQS). The change from 8.0% to 7.0% in asphalt use in Nueces County will not have an impact as current use is well below the limit. The

changes are anticipated to have the positive effect of providing increased flexibility to the industry in their selection of paving materials while maintaining or lowering air emissions. In addition, the amendments to the rules do not meet any of the four applicability criteria of a “major environmental rule.” Section 2001.0225 applies only to a major environmental rule the result of which is to:

- (1) exceed a standard set by a 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 new definitions and stipulations for test methods will not change the current level of protection for the environment as the criteria contained in §115.512(3)(A)-(D) remain unchanged, the affected areas use only a fraction of the allowable cutback volume, and the rule changes will not alter these areas' obligation relative to the NAAQS. The change from 8.0% to 7.0% in asphalt use in Nueces County will not have an impact because current use is well below the limit. The amendments to the rules do not exceed any express requirement of state law, but were developed to provide additional flexibility to the industry while complying with the requirements of federal law. There is no contract or delegation agreement that covers the topic that is the subject of rulemaking. Therefore, these amendments do not exceed a standard set by federal law, exceed an express requirement of state law, or

exceed a requirement of a delegation agreement. In addition, the changes are not enacted solely under the general rulemaking authority of the commission.

The EPA has concurred with the changes to Chapter 115. In addition, suggestions from the industry have been incorporated into the amendments and are supported by the industry and the agency staff.

The amendments are considered to be acceptable in terms of environmental impact and cost effectiveness.

TAKINGS IMPACT ASSESSMENT

The commission has prepared a takings impact assessment for this amendment under the Texas Government Code, §2007.043. The specific purpose of this rulemaking is to give flexibility to industry, update the rule to reflect current scientific knowledge, and still insure VOC emission reductions in nonattainment areas. Promulgation and enforcement of this rulemaking will not affect private real property because the rule changes being adopted do not materially change the existing ASTM Test Method D 244 or criteria in §115.512(3)(A)-(D) which remain unchanged and that are currently enforced. The change from 8.0% to 7.0% asphalt use in Nueces County will not have an impact as current use is well below the limit. The addition of ASTM Test Method D 402 only adds a method for testing solvent-based cutback asphalt which must meet the same emissions criteria.

COASTAL MANAGEMENT PROGRAM CONSISTENCY REVIEW

The commission has determined that the rulemaking concerning Chapter 115, Subchapter F, relates to an action or actions subject to the Texas Coastal Management Program (CMP) in accordance with the

Coastal Coordination Act of 1991, as amended (Texas Natural Resources Code, §§33.201 et seq.), and the commission's rules in 30 TAC Chapter 281, Subchapter B, concerning consistency with the Texas CMP. As required by 31 TAC §505.11(b)(2) and 30 TAC §281.45(a)(3), relating to actions and rules subject to the CMP, commission rules governing air pollutant emissions must be consistent with the applicable goals and policies of the CMP. The commission has reviewed this action for consistency with the CMP goals and policies in accordance with the rules of the Coastal Coordination Council and has determined that the action is consistent with the applicable CMP goals and policies, specifically §501.12(1), which is to protect, restore, and enhance the diversity, quality, functions, and values of coastal natural resource areas and §501.14(q), regarding compliance with 40 Code of Federal Regulations (CFR), Protection of Environment. The rule changes do not relax the VOC obligations established in §115.512(3), thus the proposed rule complies with regulations in 40 CFR, Part 51, Requirements for Preparation, Adoption, and Submittal of Implementation Plans, and therefore, is consistent with this policy.

HEARING AND COMMENTERS

A public hearing on the proposal was held in Austin on May 19, 1999. The comment period closed May 24, 1999. Three commenters submitted written comments on the proposal. One commenter also submitted oral testimony. The EPA supported the proposed revisions. TxDOT and Environmental Resource Management on behalf of Unique Paving Materials Corporation (UPM) supported the proposed revisions, but suggested changes or clarifications. No commenters opposed the proposed revisions.

ANALYSIS OF TESTIMONY

TxDOT stated that the ASTM Test Method D 244 should only be used for asphalt emulsions, and that ASTM Test Method D 402 should be used for other cutback mixes using solvent diluents. To clarify such concerns, TxDOT suggested that there be four distinct mixes defined under §115.510 with appropriate test method where appropriate (asphalt emulsion, cutback asphalt, exempt cutback asphalt, and non-exempt cutback asphalt). The asphalt emulsions would be defined to include an asphaltic base mixed with water or an emulsifying agent. A cutback asphalt is any asphalt which has been liquified by blending with petroleum solvents (diluents). An exempt cutback asphalt would have to comply with ASTM Test Method D 402 criteria with the distillate fraction recovered up to 500 degrees Fahrenheit to be less than 5.0% by volume of the total distillate recovered up to a temperature of 680 degrees Fahrenheit. A non-exempt cutback would not meet this criteria.

The commission agrees with the TxDOT suggestions and has added the four definitions to §115.510 with one alteration. For clarity, the defined term “Non-exempt” has been changed to “Conventional.” Sections 115.512(1) and 115.512(2) have been changed to use the defined term “conventional cutback asphalt.” Section 115.512(3) has been changed to remove “alternative asphalt” and substitute “asphalt emulsions.” Sections 115.515(1) and 115.515(2) have been changed to reflect ASTM Test Methods D 244 and D 402, respectively. The previous §115.515(2) has been renumbered as §115.515(3) without any changes.

UPM stated that the language might be clearer if emulsion asphalts (using ASTM Test Method D 244) were kept separate in the definitions from other alternative asphalts (using ASTM Test Method D 402).

UPM suggested the clarification that tests using ASTM Test Method D 402 be conducted at 500 degrees Fahrenheit, the same temperature used in ASTM Test Method D 244 for emulsion asphalts. UPM also suggested changing §115.512 to add a section allowing alternative asphalt (exempt cutback) up to 7.0% maximum VOC content.

Regarding test methods, the commission feels the changes suggested by UPM are basically parallel with those of TxDOT and that the changes incorporated to address TxDOT's suggestions were adequate to address both. The commission considered raising the VOC percentage of exempt cutback asphalt from 5.0% to 7.0%. According to TxDOT, a material sampled by ASTM Test Method D 402 at 500 degrees Fahrenheit is considered to have no VOCs if less than 5.0% by volume is measured during the test. Therefore, the commission rejects UPM's 7.0% recommendation as being too lenient. Using the approach of defining an exempt cutback asphalt as containing less than 5.0% VOC by volume will maintain the current level of controls on VOC emitting materials. This will insure the state's and EPA's intent in controlling VOCs from cutback asphalt.

STATUTORY AUTHORITY

The new section and amendments are adopted under Texas Health and Safety Code, Texas Clean Air Act (TCAA), §382.017, which provides the commission with the authority to adopt rules consistent with the policy and purpose of the TCAA. The new section and amendments also are adopted under the TCAA, §382.011, which provides the commission with the authority to control the quality of the state's air; §382.012, which provides for the commission to prepare and develop a general,

comprehensive plan for the proper control of the state's air; and §382.016, concerning monitoring requirements and examination of records.

SUBCHAPTER F : MISCELLANEOUS INDUSTRIAL SOURCES

DIVISION 1 : CUTBACK ASPHALT

§§115.510, 115.512, 115.513, 115.515, 115.516

§115.510. Cutback Asphalt Definitions.

The following terms, when used in this division (relating to Cutback Asphalt), shall have the following meanings, unless the context clearly indicates otherwise. Additional definitions for terms used in this division are found in §115.10 of this title (relating to Definitions), §101.1 of this title (relating to Definitions), and §3.2 of this title (relating to Definitions).

(1) Asphalt emulsion - An emulsion consisting of a continuous and discontinuous phase, composed principally of a semisolid or liquid asphaltic base, water, and an emulsifying agent.

(2) Conventional cutback asphalt - Any cutback asphalt which does not meet the definition of an exempt cutback asphalt.

(3) Cutback asphalt - Any asphaltic cement which has been liquified by blending with petroleum solvents (diluent).

(4) Exempt cutback asphalt - Any cutback asphalt which, when tested in accordance with American Society of Testing Materials Test Method D 402, "Distillation of Cutback Asphalt Products," as published in the 1997 edition of the *Annual Book of ASTM Standards*, shows the distillate fraction recovered up to 260 degrees Celsius (500 degrees Fahrenheit) to be less than 5.0% by volume of the total distillate recovered up to a temperature of 316 degrees Celsius (680 degrees Fahrenheit).

§115.512. Control Requirements.

The following control requirements shall apply in Nueces County and the Beaumont/Port Arthur, Dallas/Fort Worth, El Paso, and Houston/Galveston areas as defined in §115.10 of this title (relating to Definitions).

(1) The use of conventional cutback asphalt containing volatile organic compounds (VOC) solvents for the paving of roadways, driveways, or parking lots is restricted to no more than 7.0% of the total annual volume averaged over a two-year period of asphalt used or specified for use by any state, municipal, or county agency who uses or specifies the type of asphalt application.

(2) In the Beaumont/Port Arthur, Dallas/Fort Worth, El Paso, and Houston/Galveston areas, no person shall allow the use, application, sale, or offering for sale of conventional cutback asphalt containing VOC solvents for paving roadways, driveways, or parking lots during the period from April 16 to September 15 of any year.

(3) When asphalt emulsion is used or produced, the maximum VOC content shall not exceed 12% by weight or the following limitations, whichever is more stringent:

(A) - (D) (No change.)

§115.513. Alternate Control Requirements.

Alternate methods of demonstrating and documenting continuous compliance with the applicable control requirements or exemption criteria in this division 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.

§115.515. Testing Requirements.

Compliance with §115.510 and §115.512 of this title (relating to Cutback Asphalt Definitions; and Control Requirements) shall be determined by applying the following test methods, as appropriate:

(1) American Society of Testing and Materials (ASTM) Test Method D 244, "Standard Test Methods for Emulsified Asphalts, Sections 11 to 15, Residue and Oil Distillate by Distillation," as published in the 1997 edition of the *Annual Book of ASTM Standards*, for determining volatile organic compound (VOC) content of asphalt emulsions;

(2) ASTM Test Method D 402, "Standard Test Method for Distillation of Cut-Back Asphaltic Products," as published in the 1997 edition of the *Annual Book of ASTM Standards*, for determining the VOC content of cutback asphalt; or

(3) minor modifications to these test methods approved by the executive director.

§115.516. Recordkeeping Requirements.

In Nueces County and the Beaumont/Port Arthur, Dallas/Fort Worth, El Paso, and Houston/Galveston areas, any state, municipal, or county agency who uses or specifies the use of cutback asphalt or asphalt emulsion shall maintain records sufficient to document compliance with applicable restrictions and shall make such records available upon request to representatives of the executive director, EPA, or the local air pollution control agency having jurisdiction in the area.