
# APPENDIX A:
# TECHNICAL SUPPORT DOCUMENT

## Changes to the Rules of the State Implementation Plan

Division of Environmental Quality

Office of Air Quality

## Executive Summary

This technical support document demonstrates how proposed amendments to Arkansas Pollution Control and Ecology Commission (APC&EC) Rule 19 satisfy Clean Air Act requirements and requirements for state implementation plans under 40 CFR Part 50.

The Arkansas Pollution Control and Ecology Commission (APC&EC) adopted amendments to Rule 19 that removed certain provisions that have been approved into the federally enforceable Arkansas state implementation plan (SIP) because they are outdated and not necessary to maintain clean air in the state. Specifically, the provisions to be repealed are provisions for the control of volatile organic compounds from certain source categories in Pulaski County, provisions for the Clean Air Interstate Rule in Chapter 14 of APC&EC Rule 19, and informational provisions regarding sources eligible or subject to best available retrofit technology requirements for Regional Haze. This technical support document includes a Clean Air Act § 110(l) analysis that demonstrates that the EPA-approved SIP is sufficiently robust to protect the national ambient air quality standards (NAAQS) statewide without the provisions to be repealed.

The Rule 19 amendments also address one EPA-identified deficiency within the Arkansas SIP related to the 2015 Startup, Shutdown, and Malfunction SIP Call[1] for Reg. 19.1004(H). With EPA-approval of the of this SIP revision submittal deficiencies identified by EPA in Reg. 19.1004(H) will be addressed.

This technical support document also describes the basis for other changes made to Rule 19 that are part of the SIP.

DEQ respectfully submits this SIP revision to EPA and requests that EPA update the SIP to reflect these amendments.

[1] 80 FR 33840: June 12, 2015

## Table of Contents

## I. Introduction

### A. Arkansas State Implementation Plan

The Arkansas state implementation plan (SIP) is the air quality protection strategy implemented by the Department of Energy and Environment's Division of Environmental Quality (DEQ) pursuant to the Clean Air Act. The SIP consists of laws and rules, nonregulatory and quasi-regulatory measures, and other state enforceable requirements codified at 40 CFR § 52 Subpart E. The Arkansas SIP is federally enforceable. The SIP was first approved by the United States Environmental Protection Agency (EPA) in 1972 (37 CFR 10841). All subsequent revisions to the SIP require EPA approval.

Certain provisions in Arkansas Pollution Control and Ecology Commission (APC&EC) rules have been submitted by DEQ and approved by EPA into the Arkansas SIP. When rules that have been approved into the Arkansas SIP change, DEQ must submit a SIP revision to EPA for approval in order to update the SIP to reflect the rule changes. Until EPA approves the SIP revision, the older version of the rule that has been approved by EPA continues to be federally enforceable.

### B. Amendments to SIP-Approved Rule 19 Provisions

APC&EC repealed the following from Rule 19:

- Portions of Rule 19, Chapter 10—*Rules for the Control of Volatile Organic Compounds in Pulaski County:*
    - Rule 19.1003, *except the following definitions:*
        - "Cutback asphalt;" and
        - "Prime coat;"[2]
    - Rule 19.1004;
    - Rule 19.1005(A), (B), (D), (E), and (F); and
    - Rule 19.1006;
- Rule 19, Chapter 14—*CAIR NOx Ozone Season Trading Program General Provisions;* and

[2] CAA section 110(l) requires states to demonstrate that a proposed SIP revision does not interfere with any applicable requirement concerning attainment and reasonable further progress, or any other applicable requirement of the CAA. The SIP-approved section of Rule 19.1003(C) includes process requirements and conditions for cutback asphalt application in Pulaski County. In Arkansas, sources subject to 19.1003(C) are not required to obtain a permit, and emissions for this category are difficult to quantify for a 110(l) demonstration. Because DEQ cannot quantify the potential emissions increases that may occur as a result of repealing cutback asphalt requirements, DEQ proposes to retain previously SIP-approved cutback asphalt provisions.

- Rule 19, Chapter 15—*Regional Haze* (retitled *Best Available Retrofit Technology* in this rulemaking):
    - Rule 19.1503;
    - Rule 19.1504(A), (D), (F), (G), (H), (I), (J), (K), and (M) (provisions in Rule 19.1504(B) and (C) were moved to Rule 19.1506);
    - Rule 19.1507.

This technical support document demonstrates that these provisions are not necessary to fulfill Arkansas's Clean Air Act requirements and removal will cause no harm to air quality.

The repeal of Chapter 10 of Rule 19, with the exception of definitions and provisions related to cutback asphalt, affects area sources in Pulaski County. However, these sources are also regulated by equivalent or more stringent new source performance standards (NSPS) and national emissions standards for hazardous air pollutants (NESHAP). This action also addresses one provision identified in EPA's 2015 SSM SIP Call: Reg. 19.1004(H). Definitions and provisions related to 19.1005(C), *Cutback Asphalt*, are not being repealed.

The repeal of Chapter 14 of Rule 19 will not affect any sources. The CAIR program that was implemented through provisions in Chapter 14 was vacated and is no longer in effect. Emissions addressed by the CAIR program are now addressed by CSAPR.

APC&EC also adopted the following amendments to Rule 19:

- Revisions to the following definitions in Rule 19, Chapter 2:
    - "$CO_2$ equivalent emissions" – updated the reference date to federal citation Table A-1 to Subpart A of 40 C.F.R. Part 98 to the most recent version. (79 FR 73750)
    - "Volatile organic compounds" – updated the definition of this term based on recent federal exemptions to the list of compounds. (83 FR 61127)
- Addition of section 19.105 Incorporation by Reference, to clarify what Rule 8.817(C) already requires of referenced law in other APC&EC Rules. This change clarifies that those federal requirements that are incorporated into Rule 19 with no explicit "as of" date will auto-update to the effective date of Rule 19 with each subsequent revision of the Rule.
- Inclusion verbatim of the provisions of Rule 8.204(B) related to Disclosure Statements, where it was previously incorporated by reference in Rule 19 at 19.407(B), *Administrative Procedures-Changes in Ownership*. This rolls back changes made in 2010 that were not approvable into the Arkansas state implementation plan because Rule 8.204(B) is not part of the state implementation plan.
- Removal of the effective date associated with Appendix W of 40 C.F.R. Part 51 (*Guideline on Air Quality Models*) in Rule 19.412(A). Striking this language has the effect of ensuring that updates to Rule 19 capture the most recent reference to Appendix W, as of the effective date of the Rule 19 amendment. This change is necessary because DEQ is required under the Clean Air Act to use the most recent version of Appendix W

when performing air quality modeling. This is done in practice pursuant to DEQ's authority to approve alternative models with concurrence of EPA. For the purposes of this rulemaking, removal of the date would explicitly require the use of the most recent update to Appendix W, which was effective on February 16, 2017 (82 FR 5182).

- Addition of section 19.904(H) to clarify air quality modeling requirements for the Prevention of Significant Deterioration. This section is taken verbatim from Rule 19.412, applicable to Minor Sources, to make explicit the requirement to use the latest EPA-approved models, which was not clear from the incorporation by reference of 40 C.F.R. 52.21(l) as of November 29, 2005. Appendix W, the modeling guidelines, have been updated since that time. (82 FR 5182)
- Revision of Rule 19, Chapter 15 Regional Haze, to remove informational language related to Subject-to-BART sources and BART-eligible sources and to remove emission limits that were disapproved by EPA. EPA-approved requirements pertaining to Planning Period 1 of the Regional Haze program are retained.

Additional non-substantive changes have been made throughout Rule 19.

## II. Anti-Backsliding Demonstrations under CAA Section 110(l)

Section 110(l) of the Clean Air Act (CAA) indicates that EPA cannot approve a SIP revision if the revision would interfere with any applicable requirement concerning attainment and reasonable further progress (RFP), or any other applicable requirement of the CAA. EPA will approve a SIP revision that removes or modifies a control measure in the SIP only after the State has demonstrated that the removal or modification will not interfere ("noninterference") with attainment of the NAAQS, rate of progress, RFP, or any other applicable requirement of the CAA.

In this technical support document, DEQ demonstrates that the provisions requested for removal from the SIP are not necessary to protect air quality in the state.

### A. APC&EC Rule 19, Chapter 10

Chapter 10 of APC&EC Rule 19, *Rules for the Control of Volatile Organic Compounds in Pulaski County*, was approved into the Arkansas SIP on January 29, 1980 (45 FR 06569).

A Federal Register action published on March 3, 1978 (43 FR 08962) finalized a determination that Pulaski County, Arkansas, did not meet the primary ambient ozone NAAQS and classified the county as being in nonattainment for ozone. The provisions currently contained in Rule 19, Chapter 10, were developed as part of the SIP to reduce ozone levels in Pulaski County. The APC&EC adopted the provisions on March 23, 1979, and EPA conditionally approved them on January 29, 1980. Pulaski County was redesignated to attainment status in 1984 (49 FR 37753,

Sept. 26, 1984), and it has remained in attainment of the ozone NAAQS for over three decades, even as the stringency of the ozone NAAQS has increased over time.

Appendix A-1 to this technical support document provides a robust demonstration showing that removal of provisions in Rule 19, Chapter 10 for certain source categories will not have adverse air quality impacts. Appendix A-1 examines the following:

- the primary driver(s) for ozone formation in Pulaski County;
- the inventory of volatile organic compounds (VOC) emissions in Pulaski County over time;
- the minute universe of permitted facilities regulated under Rule 19, Chapter 10; and
- other regulations that address ozone precursors that will remain in place after the identified provisions in Rule 19, Chapter 10 are removed from the SIP.

Evidence suggests that VOC emissions are not the primary driver of ozone formation in Pulaski County. VOC emissions have increased in Pulaski County since 1984 while ozone levels have continued to decline. The majority (approximately fifty-four percent) of VOC emissions in Pulaski County are biogenic in nature and not controllable. In addition, modeling by EPA and others demonstrates that in most parts of the United States, including all of Arkansas, the chemical reaction driving ozone formation is limited by nitrogen oxides (NOx) concentrations rather than VOC concentrations.

Many federal regulations that control NOx and VOC emissions have been enacted since Pulaski County's redesignation to attainment status. These regulations serve to control VOC emissions from specific source categories and are at least as effective in reducing VOC emissions in Pulaski County as the Pulaski County-specific VOC provisions contained in Chapter 10 of Rule 19.

Removal of the identified provisions from Chapter 10 of Rule 19 will also address one component of the 2015 SSM SIP Call for Arkansas, in which EPA determined Reg. 19.1004(H) was inadequate to meet CAA requirements. By removing the identified provisions in Chapter 10, the provision at Reg. 19.1004(H) will no longer be relevant to the 2015 SSM SIP Call.

Because of the difficulty in quantifying VOC emissions resulting from cutback asphalt processes in Pulaski County, DEQ is <u>not</u> requesting removal from the SIP of following sections of Rule 19, Chapter 10:

**Rule 19.1001, Title**

**Rule 19.1002, Purpose**

**Rule 19.1003, Definitions**

- Cutback asphalt

- Prime coat

**Rule 19.1005, Provisions for Specific Processes**

(C) Cutback Asphalt

## B. APC&EC Rule 19, Chapter 14

Repeal of Chapter 14 of Rule 19 will remove provisions that are no longer implemented by the DEQ because they rely upon a federal program that no longer exists.

On August 10, 2007, DEQ submitted a SIP revision to meet CAIR NOx ozone season requirements by requiring certain electric generating units (EGUs) to participate in the EPA-administered CAIR program. To demonstrate compliance with CAIR NOx ozone season requirements, the 2007 SIP revision included provisions Reg. 19.1401–19.1404, which were adopted by APC&EC into Rule 19 on June 22, 2007. EPA approved this SIP revision on September 26, 2007 (72 FR 54556).

On September 16, 2009, DEQ submitted to EPA a SIP revision including amendments to Rule 19, Chapter 14, which were adopted by APC&EC on December 5, 2008 and June 26, 2009. These amendments corrected typographical errors and incorporated changes made by EPA to CAIR on October 19, 2007. EPA approved this SIP revision on April 17, 2014 (79 FR 21631).

On August 8, 2011, EPA promulgated the CSAPR federal implementation plan (FIP), which was intended to replace CAIR. However, CSAPR was stayed prior to implementation and later vacated by the U.S. Court of Appeals for the D.C. Circuit. On April 29, 2014, the Supreme Court reversed the D.C. Circuit's decision vacating CSAPR. In response, EPA published a rule on December 3, 2014, in which the compliance deadlines with CSAPR were revised in response to the D.C. Circuit Court decision. CAIR remained in effect until the CSAPR FIP became effective on January 1, 2015 (79 FR 71663).

On September 7, 2016, the EPA finalized an update to CSAPR for the 2008 ozone NAAQS by issuing the final CSAPR Update (80 FR 75706). This rule finalized CSAPR FIPs to reduce summertime NOx emissions from power plants in twenty-two states, including affected units in Arkansas.

Because CAIR is no longer in effect, the provisions in Rule 19, Chapter 14, are no longer necessary. Interstate transport obligations for the 1997 and 2008 ozone NAAQS are satisfied by participation of Arkansas EGUs in the CSAPR FIP NOx ozone season trading program.

## C. APC&EC Rule 19, Chapter 15

APC&EC is repealing Rule 19.1503, 19.1504, and 19.1507. Rule 19.1503 and 19.1504(A) contain informational tables that were also included in the SIP Narrative for the Regional Haze Planning Period I, Phase II SIP revision. They do not contain any enforceable requirements nor

are they necessary to identify the facilities subject to Rule 19.1505, because the identifying information contained in those information tables is also contained within Rule 19.1505 for those enforceable requirements that were approved into the SIP. The provisions in Rule 19.1504(B) and (C) were moved to Rule 19.1506. Rule 19.1507 makes sources subject to BART subject to re-opening of their permit to incorporate the requirements of Rule 19.1505. However, this provision is no longer relevant as the only requirements that remain in Rule 19.1505 are requirements that are based on existing permit conditions.

Rule 19.1503 and 19.1504 are not referenced as the origin of and authority for any term or condition in the permits for sources identified as subject to BART in DEQ's Regional Haze SIP, as revised by the Phase II SIP revision. Rule 19, Chapter 15 generally is mentioned in the Statement of Basis (SOB) for Administrative Order (AO) LIS No. 18-072 and Rule 19.1504 is specifically mentioned in the SOB in context of a 2010 APC&EC variance, but this reference is informational and not tied to any conditions of the Order and Agreement. It is not unusual for circumstances or facts initially identified in the SOB to become outdated or to change over time. By contrast, the Order and Agreement section of the AO contains the legally binding and enforceable requirements. A change in the current status of statements referred to within the SOB does not affect the status of the actual binding requirements found in the Order and Agreement. No other AOs or permits for any subject-to-BART sources contain references to Rule 19.1503 or Rule 19.1504.

Repeal of Rule 19.1503, 19.1504(A), and 19.1507 is approvable under CAA Section 110(l) because it does not interfere with any applicable requirement under the Clean Air Act. Removing Rule 19.1503 and 19.1504 will not relax or repeal any current requirements for any source listed in the tables, and sources listed as BART-eligible or subject-to-BART remain so, whether or not Rule 19.1503 and 19.1504 exist. In addition, these tables remain a part of public record as part of the narrative for the Regional Haze Planning Period 1, Phase II SIP. Removing Rule 19.1507 will have no effect on conditions that were approved under Rule 19.1505 because these requirements were based on conditions that were already in the relevant permits. As such, the removal of Rule 19.1503, 19.1504, and 19.1507 will result in no increase of emissions and will not interfere with reasonable progress toward natural visibility conditions under the Regional Haze Rule.

# Appendix A-1:

# Clean Air Act 110(l) Anti-Backsliding Demonstration for Repeal of Process-Specific VOC Requirements for Pulaski County

Division of Environmental Quality

Office of Air Quality

## Appendix A-1 Table of Contents



## List of Figures



## List of Tables

## I. Introduction

This demonstration examines modeling data, volatile organic compound (VOC) emission trends in the state, including Pulaski County, and outlines the effects of VOC and other emissions on ozone formation. Also discussed are additional provisions for the control of ozone precursors that will remain in place after the identified provisions in Rule 19 Chapter 10 are removed from the SIP, and specific information about the small universe of sources subject to provisions under that Chapter. Evidence herein demonstrates that removal of outdated provisions related to the control of VOC in Pulaski County will not adversely impact air quality in the state, and Arkansas's air program will continue to be protective of the ozone national ambient air quality standard (NAAQS).

The decision to remove provisions in Rule 19, Chapter 10, from the SIP is based on several factors:

(a) Pulaski County has remained in attainment of the ozone NAAQS for more than three decades despite continued increases in stringency of the ozone standard over time;

(b) The largest contributor (fifty-four percent) to VOC emissions in Pulaski County is biogenic (natural) sources;

(c) There are many federal rules in place to regulate VOC emissions from anthropogenic sources that are either more stringent or equivalent to the permit conditions pursuant to Rule 19, Chapter 10 for sources in Pulaski County with active permits; and

(d) The evidence suggests that VOC control is not an effective strategy for controlling ozone formation in Pulaski County.

The only specific process in Rule 19, Chapter 10 that does not require a subject source to obtain a permit is the use of cutback asphalt. Although DEQ does not anticipate that repeal of cutback asphalt restrictions would result in emissions increases that may interfere with attainment and maintenance of the NAAQS, DEQ cannot quantify the potential emissions increases that may occur as a result of repealing cutback asphalt requirements. For all other processes described in Rule 19, Chapter 10, a permit is required. DEQ has reviewed all permits of sources subject to Rule 19, Chapter 10 requirements and determined that repeal of Rule 19, Chapter 10 provisions pertaining to those processes will not result in an emissions increase. Therefore, cutback asphalt requirements and related conditions have been retained in Rule 19 and requirements for other processes in Rule 19, Chapter 10 have been repealed.

This demonstration details the rationale and provides supporting evidence that the repeal of Rule 19, Chapter 10 provisions identified for deletion in this submittal, and the subsequent withdrawal

of those provisions from the EPA-approved SIP, meets requirements for removal under Clean Air Act § 110(l). [3]

## II. Background

Ozone forms in the lower atmosphere through a series of photochemical reactions involving oxides of nitrogen (NOx) and VOC. Therefore, strategies to reduce ground-level ozone typically focus on reducing emissions of one or both of these precursors. For Pulaski County, a VOC emission reduction strategy was implemented in the late 1970s and early 1980s, based on EPA guidance, to reduce ozone. The following paragraphs detail the timing and original rationale for adoption of the VOC strategy.

In 1978, EPA designated Pulaski County in Arkansas, which includes Little Rock, as a nonattainment area for ozone in accordance with Section 107 of the Clean Air Act (43 FR 8969, March 3, 1978). This designation was based on an ozone design value for Little Rock of 0.16 parts per million (ppm), which was 0.04 ppm higher than the NAAQS (0.12 ppm) at the time. The State of Arkansas opted to use the modified rollback model to determine the amount of additional VOC reductions required to bring the area back into attainment of NAAQS for ozone. Based on this model, the State found that, in order to produce a local reduction of ozone concentrations of 0.02 ppm, a presumed VOC reduction necessary for Pulaski County to meet NAAQS to be twenty percent. This reduction, in addition to 0.02 ppm reduction in transported ozone from upwind areas, was anticipated to result in attainment of the ozone NAAQS.

In 1979, the state developed a VOC control strategy. The use of standards, such as reasonably available control technology (RACT) and the Federal Motor Vehicle Control Program (FMVCP), defined the state's plan to achieve emission reductions through application of the aforementioned standards to existing major stationary sources, consistent with Control Technique Guidelines (CTG) promulgated by EPA. The State committed to adopt VOC control measures consistent with CTGs for major sources and adopted additional regulations for source categories not included on the CTG lists.[4] These control strategies were estimated in modeling analyses to reduce VOC by 26.5% overall, with 4.7% due to CTGs and 21.9% due to FMVCP. VOC reductions greater than the estimated twenty percent presumed to be necessary to attain the NAAQS were used to include a margin of safety and to allow for industrial growth in the area.

[3] "Each revision to an implementation plan submitted by a State under this chapter shall be adopted by such State after reasonable notice and public hearing. The Administrator shall not approve a revision of a plan if the revision would interfere with any applicable requirement concerning attainment and reasonable further progress (as defined in section 7501 of this title), or any other applicable requirement of this chapter."

[4]: EPA (1980). "Approval and Promulgation of State Implementation Plans; Arkansas Plan for Nonattainment Areas." 45 FR 6569–6572

In 1979, the State amended a provision in the SIP that reduced the number of gasoline marketing facilities, including service stations, subject to Arkansas VOC rules by creating an exemption for low volume gasoline storage and marketing facilities.[5] The EPA approved this amended provision in 1982.

In October 1980, the State submitted a SIP revision to reflect use of RACT covered by CTGs for gasoline tank trucks and vapor collection systems, and surface coating of miscellaneous metal parts and products. The SIP revision included new definitions and established compliance dates, testing, and reporting. The EPA approved the changes August 1981.[6]

In 1981, the State adopted (and EPA approved into the SIP) revisions to the VOC regulation for storage tanks with external floating roofs. The revision applied exemptions to storage tanks with vapor pressure exceeding 10.5 kilopascals. Criteria for exemptions included fitting the tank with a secondary seal, having no visible damage to the seals or fabric, and limiting the size of the gap area between the secondary seal and tank.[7]

In May 1984, the State requested a redesignation of attainment status for Pulaski County. Pulaski County had only four exceedances of the ozone NAAQS in 1980 and none in 1981 or 1982. EPA reviewed and approved the request to redesignate Pulaski County to attainment status for ozone in 1984 (49 FR 37753, Sept. 26, 1984).

## III. Modeling to Support Removal of VOC Regulations for Pulaski County

In 2017, EPA's Office of Air Quality Planning and Standards, Air Modeling Group released modeling results of ozone sensitivity to NOx and VOC reductions as part of its Ozone Advance program guidance.[8] CMAQ v5.1 modeling was conducted using 2011 as a base year over a forty-eight-state domain at a grid resolution of twelve kilometers to examine the effect on peak eight-hour ozone concentrations of fifty percent VOC reductions and fifty percent NOx reductions nationwide. Results also suggest that reductions in anthropogenic VOC emissions may be ineffective due to the overwhelming contribution to local VOC emissions by biogenic sources. Section IV of this technical support document demonstrates that this observation is true for Pulaski County.

The modeling results suggest that most of Arkansas sees no reduction in peak eight-hour ozone values with a nationwide reduction of VOC emissions. The exception is a very small part of northwest Arkansas that could see a modest (one to three parts per billion [ppb]) reduction. By

[5] Governor's December 1979 letter to Adlene Harrison of EPA. Pg 8.
[6] EPA (1981). "Approval and Promulgation of State Implementation Plans: Arkansas Submission of Volatile Organic Compound (VOC) regulations for Set Control Technique Guideline Sources." 46 FR 43146.
[7] Governor's April 1981 letter to Fran Phillips of EPA
[8] EPA Office of Air Quality Planning and Standards, Air Quality Modeling Group (May 2017) "Supplemental Information for Ozone Advance Areas Based On Pre-Existing National Modeling Analyses"

contrast, most of Arkansas would see a seven to nine ppb reduction in peak ozone concentrations with a fifty percent nationwide reduction in NOx emissions, with the exception of a small part of eastern Arkansas near the Memphis metropolitan area for which a five to seven ppb reduction was modeled. The modeling results suggest a reduction in NOx emissions is four to five times more effective at reducing ozone than an equivalent reduction in VOC emissions.

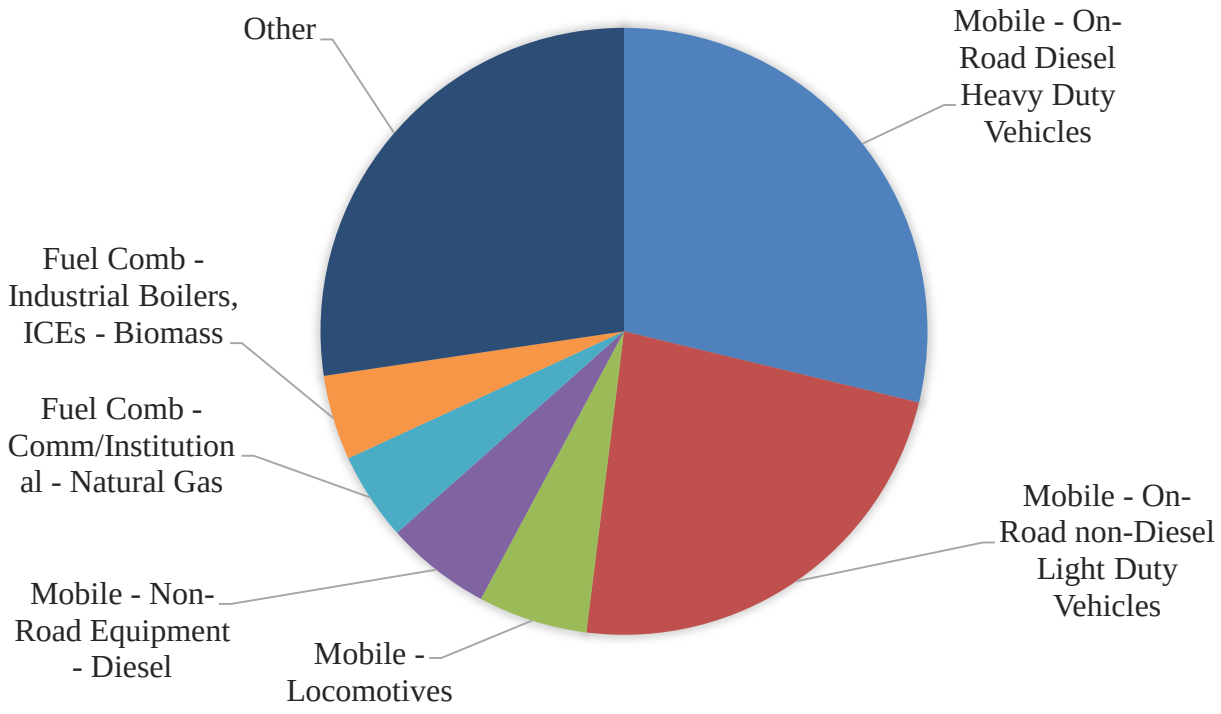
## IV. Emissions Inventory and Monitoring Data for Pulaski County

### A. Pulaski County Volatile Organic Compound Emission Inventory

The largest contributor of VOC emissions in Arkansas is natural (biogenic) sources.[9] Like the rest of Arkansas, the largest contributor to the VOC emission inventory in Pulaski County is biogenics.[10] Biogenics comprise fifty-four percent of the VOC emission inventory in Pulaski County. Pulaski County, which is more urban than Arkansas in general, has a larger non-biogenic emission inventory than other areas of the State (forty-six percent versus ten percent). The largest non-biogenic contributor to the Pulaski County VOC emission inventory,—consumer and commercial solvent use—comprises approximately seven percent of the VOC inventory. Point sources contribute two percent to the VOC inventory in Pulaski County. Figure 1 breaks down the relative contribution of various sectors to the VOC inventory in Pulaski County.

[9] 2017 National Emissions Inventory Apr 2020 data set for Nonpoint, Onroad, Nonroad, and Event Sources Jun2020_Pt dataset for Point sources
[10] Id.

**Figure 1: Pulaski County 2017 VOC Emission Inventory**




Rule 19, Chapter 10, *Regulations for the Control of Volatile Organic Compounds in Pulaski County*, included requirements for new major sources, RACT, emission offsets, and controls for the following processes:

- Gasoline storage and marketing
- Petroleum storage
- Cutback asphalt
- Gasoline tank trucks and vapor collection systems
- Surface coating of metal parts and products
- External floating roofs

With the exception of cutback asphalt, sources in Pulaski County that use one or more of the listed processes in Rule 19, Chapter 10, must obtain an air permit. The universe of existing sources in Pulaski County with Rule 19 Chapter 10 permit conditions is very small. There are only five permits for sources located in Pulaski County that reference provisions from Rule 19, Chapter 10 in the permit conditions. The combined VOC annual permitted limit for these five sources is 570 tons per year (tpy); in plain terms, if each source maxed out permitted limits for VOCs, the emissions would amount to 44% of the anthropogenic VOC emissions in Pulaski

County, and just 2.17% of all VOC emissions in Pulaski County. Table 1 outlines these permitted facilities and the federal standards to which each is subject.

**Table 1: Sources in Pulaski County with Rule 19 Chapter 10 VOC Permit Conditions**

| Permitted Source | Category | Chapter 10 Conditions | Applicable NESHAPs | Applicable NSPSs | Permitted VOC Limits |
|---|---|---|---|---|---|
| HWRT Terminal NLR, LLC | Petroleum Distributor | 19.1005(B)(1)<br>19.1005(B)(2)<br>19.1005(B)(3)<br>19.1005(D)(1)<br>19.1005(D)(2) | BBBBBB | K | 79.3 tpy |
| Sonoco, NLR | Petroleum Bulk Stations and Terminals | 19.1005(A)(1)<br>19.1005(A)(3)<br>19.1005(B)(1)(b)<br>19.1005(B)(1)(c)<br>19.1005(B)(3)<br>19.1005(D)(1)<br>19.1005(D)(2)(a) | BBBBBB, ZZZZ | Kb, XX | 135.1 tpy |
| Magellan Pipeline NLR, South Terminal | Other Warehousing and Storage | 19.1005(A)(3)<br>19.1005(B)(1)(b)<br>19.1005(B)(1)(c)<br>19.1005(B)(3)<br>19.1005(D)(1)<br>19.1005(D)(2)(a)(i)<br>19.1005(D)(2)(a)(ii)<br>19.1005(D)(2)(a)(iii) | BBBBBB | Kb, XX | 94.5 tpy |
| Magellan Pipeline NLR, North Terminal | Other Warehousing and Storage | 19.1005(A)(3)<br>19.1005(B)(1)(b)<br>19.1005(B)(1)(c)<br>19.1005(B)(3)<br>19.1005(D)(1)<br>19.1005(D)(2)(a)(i)<br>19.1005(D)(2)(a)(ii)<br>19.1005(D)(2)(a)(iii) | BBBBBB | Kb, XX | 83.1 tpy |
| Center Point Terminal, LLC | Other Warehousing and Storage | 19.1005(A)(1)<br>19.1005(A)(2)<br>19.1005(A)(3)<br>19.1005(B)(1)<br>19.1005(B)(1)(a)<br>19.1005(B)(1)(b)<br>19.1005(B)(1)(c)<br>19.1005(B)(3)<br>19.1005(D)(1)<br>19.1005(D)(2)<br>19.1005(D)(3) | BBBBBB, Y | Kb, XX | 92.6 tpy |

DEQ thoroughly examined these five permits, and found that each permit also references applicable federal NSPS and/or NESHAPs that are just as stringent as the listed provisions from Rule 19, Chapter 10.

Tables 2–4 provide a comparison of permit conditions derived from Rule 19, Chapter 10 provisions to permit conditions derived from federal requirements.

- *Bulk Gasoline Plants:* There are four sources subject to Rule 19.1005(A). Permit conditions derived from requirements under Rule 19.1005(A) and federal requirements are compared in Table 2.

**Table 2: Comparison of Rule 19.1005(A)-derived Permit Conditions and Permit Conditions Derived from Federal Requirements (Gasoline Storage and Marketing)**

| Facility | Rule 19.1005(A) Requirements | Federal Requirements |
|---|---|---|
| Sunoco<br>AFIN: 60-00440,<br>Permit # 0590-AOP-R20 | **Specific Condition 10**<br>The gasoline delivery vessels at the facility shall be loaded through bottom loading (19.1005(A)(1)) | **Specific Condition 60**<br>Limit the loading of gasoline into gasoline cargo tanks that are vapor tight using the procedures specified in § 60.502(e) through (j) (NESHAP BBBBBB) |
| | **Specific Condition 37**<br>Vapor control system required to prevent emissions of gasoline vapor in excess of 10 mg/L of gasoline loaded Compliance with this emission limit shall be demonstrated by compliance with Specific Condition #42. (cites to 19.1005(A)(3), which limits to 80 mg/L, not 10). | **Specific Condition 43**<br>The emissions to the atmosphere from the vapor collection system due to the loading of liquid product into gasoline tank trucks are not to exceed 35 milligrams of total organic compounds per liter of gasoline loaded. (NSPS XX)<br><br>**Specific Condition 60**<br>Reduce emissions of TOC to less than or equal to 80 mg/l of gasoline loaded into gasoline cargo tanks at the loading rack (NESHAP BBBBBB) |
| Magellan NLR North Terminal | **Specific Condition 16**<br>Vapor control system required to | **Specific Condition 24**<br>The emissions to the atmosphere |

| | | |
|---|---|---|
| AFIN 60-00606<br>Permit # 0652-AR-9 | prevent emissions of gasoline vapor in excess of 80 mg/L of gasoline loaded (19.1005(A)(3)) | from the vapor collection system due to the loading of liquid product into gasoline tank trucks are not to exceed 35 milligrams of total organic compounds per liter of gasoline loaded. (NSPS XX) |
| Magellan NLR South Terminal<br>AFIN 60-00574<br>Permit # 06752-AR-15 | **Specific Condition 12**<br>Gasoline vapors from the vapor control system shall not exceed 80 milligrams<br>per liter of gasoline loaded. (19.1005(A)(3)) | **Specific Condition 24**<br>The emissions to the atmosphere from the vapor collection system due to the loading of liquid product into gasoline tank trucks are not to exceed 10 milligrams of total organic compounds per liter of gasoline loaded. (NSPS XX) |
| Center Point Terminal Company<br>AFIN 60-01218<br>Permit # 2355-AR-2 | **Specific condition 47**<br>Submerged fill pipe or bottom loading required for loading of gasoline into a storage tank (19.1005(A)(1)) | **Specific condition 37**<br>Submerged filling for cargo tank filling (NESHAP Y) |
| | **Specific condition 48**<br>Submerged fill pipe or bottom loading required for loading of gasoline into gasoline delivery vessels (19.1005(A)(2)) | **Specific condition 41**<br>Submerged fill pipe required when operating loading racks (NESHAP BBBBBB) |
| | **Specific condition 49**<br>Vapor control system required to prevent emissions of gasoline vapor in excess of 80 mg/L of gasoline loaded (4.7 grains/gallon) (19.1005(A)(3)) | **Specific conditions 15 and 16**<br>Vapor collection system required to prevent emissions in excess of 35 mg total organic compound per Liter of gasoline loaded. (NSPS XX)<br><br>**Specific Condition 42**<br>Must install, calibrate, certify, operate, and maintain a continuous monitoring system while gasoline vapors are displaced to the vapor processor systems. (NESHAP BBBBBB). The vapor processor system is a vapor combustion unit with a manufacturer's emissions guarantee off 10 mg/l of gasoline |

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Each source subject to Rule 19.1005(A) is also subject to equivalent or more stringent federal requirements pursuant to applicable NSPS and NESHAPs. Therefore, repeal of 19.1005(A) will not result in any emission increase for sources currently subject to Rule 19.1005(A). Any new sources in this category constructed in Pulaski County would be subject to the applicable NSPS and NESHAPs.

- *Petroleum Liquid Storage:* DEQ identified five sources that were subject to Rule 19, Chapter 10 requirements. These sources are also subject redundant NESHAP and NSPS requirements. There are no older storage tanks in Pulaski County that are subject only to Rule 19, Chapter 10 requirements, therefore, the removal of Rule 19, Chapter 10 will result in no additional (or uncontrolled) VOC emissions from any such tanks. See Table 3 for a comparison of permit conditions.

**Table 3: Comparison of Rule 19.1005(B)-derived Permit Conditions and Permit Conditions Derived from Federal Requirements (Petroleum Liquid Storage)**

| Facility | Rule 19.1005(B) Requirements | Federal Requirements |
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| HWRT Terminal NLR, LLC<br>AFIN: 60-00404<br>Permit #: 1308-AR-3 | **Specific Condition 11**<br>The permittee shall not cause or permit the storage of volatile organic compounds having a true vapor pressure in excess of 10.5 kilopascals (1.52 psia) in tanks having a capacity equal to or greater than 150,000 liters (approximately 39,000 gallons) unless such tanks: a) meet the equipment specifications and maintenance requirements of the federal Standards of Performance for New Stationary Sources – Storage Vessels for Petroleum Liquids, 40 C.F.R. § 60.110, as amended by proposed rule change, Federal Register, May 18, 1978, pages 21617 through 21625; or b) are retrofitted with a floating roof or internal floating cover using a non-metallic resilient seal as a primary seal which meets the equipment | **Specific Condition 30**<br>For each internal floating roof gasoline storage tank (SN-01 and SN-06, and when storing gasoline, SN-02), the permittee shall comply with one of the following options per tank:<br>a) Equip and operate each internal floating roof gasoline storage tank according to the applicable requirements in 40 C.F.R. § 60.112b(a)(1), except for the secondary seal requirements under 40 C.F.R. § 60.112b(a)(1)(ii)(B) and the requirements in 40 C.F.R. § 60.112b(a)(1)(iv) through (ix), [40 C.F.R. § 63.11087(a), Table 1 of 40 C.F.R. § 63 Subpart BBBBBB,] or<br>b) Equip and operate each internal floating roof gasoline storage tank according to the applicable requirements in § 63.1063(a)(1) and (b), except for the secondary seal |

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| | specifications in the federal standards referred to in (a) above, or its equivalent, or c) have a covered floating roof or internal floating cover which is maintained in effective working order and which meets the manufacturer's equipment specifications in effect at the time it was installed. [Reg.19.705, Reg.19.1005(B)(1), and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]<br><br>**Specific Condition 12**<br>All seals necessary to meet the requirements of Reg. 19.1005(B)(1)(b) and (c) are to be maintained in good operating condition. [Reg.19.705, Reg. 19.1005(B)(2), and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311] | requirements under § 63.1063(a)(1)(i)(C) and (D) [40 C.F.R. § 63.11087(a), Table 1 of 40 C.F.R. § 63 Subpart BBBBBB,] (NESHAP Subpart BBBBBB)<br><br>**General Condition**<br>Gasoline loading racks, gasoline storage tanks (SN-01 and SN-06, and when storing gasoline, SN-02), equipment components in vapor or liquid gasoline service (SN-14), and vapor collection-equipped gasoline cargo tanks are subject to 40 C.F.R. § 63 Subpart BBBBBB. (NESHAP Subpart BBBBBB)<br><br>**Specific Condition 31**<br>The permittee shall: [40 C.F.R. § 63.11088(a), Table 2 of 40 C.F.R. § 63 Subpart BBBBBB, and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311] a) Equip your loading rack(s) with a vapor collection system designed to collect the TOC vapors displaced from cargo tanks during product loading; b) Reduce emissions of TOC to less than or equal to 80 mg/l of gasoline loaded into gasoline cargo tanks at the loading rack; (Note: The lower limit specified in Specific Condition #6 of 40 milligrams per liter (2.5 grains per gallon) of gasoline loaded still applies) c) Design and operate the vapor collection system to prevent any TOC vapors collected at one loading rack or lane from passing through another loading rack or lane |

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| | | to the atmosphere; and d) Limit the loading of gasoline into gasoline cargo tanks that are vapor tight using the procedures specified in 40 C.F.R. § 60.502(e) through (j). For the purposes of this section, the term "tank truck" as used in 40 C.F.R. § 60.502(e) through (j) means "cargo tank" as defined in § 63.11100.<br>(NESHAP Subpart BBBBBB)<br><br>**Specific Condition 41**<br>Each owner or operator subject to the emission standard in § 63.11087 for gasoline storage tanks shall comply with the requirements in § 63.11092(e)(1) for each tank, depending on which option was chosen in Table 1 to 40 C.F.R. § 63 Subpart BBBBBB. [40 C.F.R. § 63.11087(c), 40 C.F.R. § 63.11092(e), and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]<br>(NESHAP Subpart BBBBBB)<br><br>**Specific Condition 10**<br>All gasoline and ethanol storage tanks at this facility shall be equipped with a fixed roof and an internal floating type cover equipped with a continuous closure device between the tank wall and the cover edge. This cover is to be floating at all times (e.g. off the leg supports) except during the initial fill and when the tank is completely emptied and subsequently refilled. The process of emptying when the cover is resting on the leg supports shall be continuous (no new product flowing into the tanks) and shall be accomplished as rapidly as possible. |
| | **Specific Condition 13**<br>All openings, except stub drains and those related to safety, are to be sealed with suitable closures when not in use. [Reg.19.705, Reg. 19.1005(B)(3), and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311] | |

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| | | The process of refilling the gasoline tanks when the cover is resting on the leg supports shall be continuous until the cover is floating the leg supports. The process of refilling the ethanol tanks shall be accomplished as rapidly as possible until the cover is floating the leg supports. Each opening in the cover except for automatic bleeder vents, rim space vents, stub drains, and leg sleeves is to be equipped with a cover, seal, or lid which is to be maintained in a closed position at all times (e.g. no visible gap) except when the device is in actual use. Automatic bleeder vents are to be closed at all times except when the cover is floated off or landed on the leg supports. Rim vents are to be set open only when the cover is being floated off the leg supports or at the manufacturer's recommended setting.<br>(NSPS Subpart Kb) |
| Sunoco<br>AFIN: 60-00440,<br>Permit # 0590-AOP-R20 | **Specific Condition 11**<br>The petroleum liquid storage tanks at the facility used for the storage of volatile organic compounds having a capacity greater than or equal to 150,000 liters have been equipped to meet the equipment requirements of §19.1005 (B)(1)(c). | **Specific Condition 23**<br>The permittee shall equip each storage vessel with one of the following:<br>a. A fixed roof in combination with an internal floating roof meeting the following specifications:<br>i. The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied |

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| | **Specific Condition 12**<br>All seals necessary to meet the conditions of §19.1005 (B)(1)(b) and (c) shall be maintained in good operating condition.<br><br>**Specific Condition 13**<br>All openings, except stub drains and those related to safety, are to be sealed with suitable closures when not in use. Reg. 19.1005 (B)(3) | and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.<br>(NSPS Subpart Kb)<br><br>**Specific Condition 59**<br>The loading racks are subject to NESHAP 40 CFR Part 63 Subpart BBBBBB and shall comply with the conditions listed below. The permittee must be in compliance with all applicable provisions no later than January 10, 2011.<br>(NESHAP Subpart BBBBBB) |
| Magellan NLR North Terminal<br>AFIN 60-00606<br>Permit # 0652-AR-9 | **Specific Condition 15**<br>All seals necessary to meet the requirements of (1)(b) and (c) of §19.1005(B) are to be maintained in good operating condition.<br><br>**Specific Condition 16**<br>All openings, except stub drains and those related to safety, are to be sealed with suitable closures when not in use. [19.1005(B)(3)] | **Specific Condition 41**<br>The internal floating roof shall be equipped with two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous. [40 C.F.R. § 60.112b(a)(1)(ii)(B)]<br>(NSPS Subpart Kb)<br><br>**Specific Condition 41**<br>Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid |

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| | | shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use. [40 C.F.R. § 60.112b(a)(1)(iv)] (NSPS Subpart Kb) |
| Magellan NLR South Terminal<br>AFIN 60-00574<br>Permit # 06752-AR-15 | **Specific Condition 19**<br>All seals necessary to meet the requirements of (1)(b) and (c) of §19.1005(B) are to be maintained in good operating condition.<br><br>**Specific Condition 20**<br>All openings, except stub drains and those related to safety, are to be sealed with suitable closures when not in use. [19.1005(B)(3)] | **Specific Condition 41**<br>Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use. [40 C.F.R. § 60.112b(a)(1)(iv)] (NSPS Subpart Kb)<br><br>**Specific Condition 41(d)**<br>Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use. [40 CFR §60.112b(a)(1)(iv)] (NSPS Subpart Kb) |

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| Center Point Terminal Company<br>AFIN 60-01218<br>Permit # 2355-AR-2 | **Specific Condition 50**<br>No person shall cause or permit the storage of volatile organic compounds having a true vapor pressure in excess of 10.5 kilopascals (1.52 pounds-force per square inch [psia]) in tanks having a capacity equal to or greater than 150,000 liters (approximately 39,000 gallons) unless such tanks: [Reg. 19.1005(B)(1)] (nn) meet the equipment specifications and maintenance requirements of the federal Standards of Performance for New Stationary Sources—Storage Vessels for Petroleum Liquids, 40CFR 60.110, as amended by proposed rule change, Federal Register, May 18, 1978, pages 21617 through 21625; or (oo) are retrofitted with a floating roof or internal floating cover using a non-metallic resilient seal as a primary seal which meets the equipment specifications in the federal standards referred to in Reg. 19.1005(B)(1)(a), or its equivalent; or (pp) have a covered floating roof or internal floating cover which is maintained in effective working order and which meets the manufacturer's equipment specifications in effect at the time it was installed. | **Specific Condition 9**<br>1. SN-02, SN-03, SN-04, and SN-05 shall be equipped with a fixed roof in combination with an internal floating roof meeting the following specifications: [Reg.19.304 and 40 CFR §60.112b(a)(1)]<br>(a) The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.<br>(b) Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:<br>i. A foam- or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam- or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of |

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| | **Specific Condition 51**<br>All seals necessary to meet the requirements of (1)(b) and (c) of §19.1005(B) are to be maintained in good operating condition. | the tank.<br>ii. Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous.<br>iii. A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.<br>(NSPS Subpart Kb)<br><br>**Specific Condition 38**<br>SN-02, 03, 04, 05, 08, and 11 are subject to provisions of 40 CFR Part 63, Subpart BBBBBB—National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities.<br>(NESHAP Subpart BBBBBB) |
| | **Specific Condition 52**<br>All openings, except stub drains and those related to safety, are to be sealed with suitable closures when not in use. [19.1005(B)(3)] | **Specific Condition 9(d)**<br>Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, |

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| | | sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use. (NSPS Subpart Kb) |

Each source subject to Rule 19.1005(B) is also subject to equivalent or more stringent federal requirements pursuant to applicable NSPS and NESHAPs. Therefore, repeal of 19.1005(B) will not result in any emission increase for sources currently subject to Rule 19.1005(B). Any new sources in this category constructed in Pulaski County would be subject to the applicable NSPS and NESHAPs.

- *Cutback Asphalt:* The restriction on cutback asphalt use in 19.1005(C) does not trigger the requirement for a permit. Therefore, DEQ cannot quantify potential emissions increases that may occur if 19.1005(C) is repealed.

- *Gasoline Tank Trucks and Vapor Collection Systems:* There are five sources subject to Rule 19.1005(D) that are also subject to equivalent or more stringent NSPS and/or NESHAPs. Permit conditions derived from requirements under Rule 19.1005(D) and federal requirements are compared in Table 4. Each source subject to Rule 19.1005(D) is also subject to equivalent or more stringent federal requirements pursuant to applicable NSPS and NESHAPs. Therefore, repeal of 19.1005(D) will not result in any emission increase for sources currently subject to Rule 19.1005(D). Any new sources in this category constructed in Pulaski County would be subject to the applicable NSPS and NESHAPs.

**Table 4: Comparison of Rule 19.1005(D)-derived Permit Conditions and Permit Conditions Derived from Federal Requirements (Gasoline Tank Trucks and Vapor Collection Systems)**

| Facility | Rule 19.1005(D) Requirements | Federal Requirements |
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| HWRT Terminal NLR, LLC<br>AFIN: 60-00404<br>Permit #: 1308-AR-3 | **Specific Condition 8**<br>The permittee shall design and operate the vapor collection system and gasoline loading equipment in a manner that prevents:<br>…<br>c) Avoidable visible liquid leaks during loading or unloading operations at this facility.<br>The permittee shall, within 15 days, repair and retest the vapor collection system if it exceeds the limit in paragraph b. [Reg.19.705, Reg.1005(D)(2), and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311]<br><br>**Specific Condition 9**<br>The permittee shall not allow a gasoline tank truck to be filled or emptied at this facility unless the tank truck sustains a pressure change of no more than 750 pascals (3 inches of H2O) in five minutes when pressurized to a gauge pressure of 4,500 pascals (18 inches of H2O) or evacuated to a gauge pressure of 1,500 pascals (6 inches | **Specific Condition 32**<br>The permittee shall perform a monthly leak inspection of all equipment in gasoline service, as defined in 40 C.F.R. § 63.11100. For this inspection, detection methods incorporating sight, sound, and smell are acceptable. [40 C.F.R. §63.11089(a) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311] (NESHAP Subpart BBBBBB)<br><br>**Specific Condition 34**<br>Each detection of a liquid or vapor leak shall be recorded in the log book. When a leak is detected, an initial attempt at repair shall be made as soon as practicable, but no later than 5 calendar days after the leak is detected. Repair or replacement of leaking equipment shall be completed within 15 calendar days after detection of each leak, except as provided in 40 C.F.R. § 63.11089(d). [40 C.F.R. § 63.11089(c) and Ark. Code Ann. § 8- 4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311] (NESHAP Subpart BBBBBB)<br><br>**Specific Condition 42**<br>The annual certification test for gasoline cargo tanks shall consist of the test methods specified in § 63.11092(f)(1). [40 C.F.R. § 63.11092(f) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311] a) EPA Method 27, Appendix A–8, 40 C.F.R. § 60. Conduct the test using a time period (t) for the pressure and vacuum tests of 5 minutes. The initial pressure (Pi) for the pressure |

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| | of H2O) during annual testing conducted using a test method approved by the Director and consistent with the test procedures described in Appendix A or C of the OAQPS Guideline Series document, "Control of Organic Compounds Leaks from Gasoline Tank Trucks and Vapor Collection Systems," EPA-450/2-78-051. The provisions of Reg.19.1005(D)(1)(c) shall not apply to this facility provided the facility does not allow any gasoline tank truck to fill or empty on its premises without providing proof of current certification under the testing requirements of Reg. 19.1005(D)(1)(a) and (b). [Reg.19.705, Reg.19.1005(D)(1), and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311] | test shall be 460 millimeters (mm) of water (18 inches of water), gauge. The initial vacuum (Vi) for the vacuum test shall be 150 mm of water (6 inches of water), gauge. The maximum allowable pressure and vacuum changes (Δ p, Δ v) for all affected gasoline cargo tanks is 3 inches of water, or less, in 5 minutes. [40 C.F.R. § 63.11092(f)(1) and Ark. Code Ann. § 8-4-203 as referenced by Ark. Code Ann. §§ 8-4-304 and 8-4-311] (NESHAP Subpart BBBBBB) |

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| Sunoco<br>AFIN: 60-00440,<br>Permit # 0590-AOP-R20 | **Specific Condition 39**<br>The permittee shall not allow a gasoline tank truck to be emptied or filled unless the gasoline truck: [§19.1005 (D)(1)]<br>a. Is tested on an annual schedule according to the test procedure referenced in §19.1004 (F)(3).<br>b. Sustains a pressure change of no more than 750 Pascals (3 in. of H2O) in five minutes when pressurized to a gauge pressure of 4,500 Pascals (18 in. of H2O) or evacuated to a gauge pressure of 1,500 Pascals (6 in. of H2O) during the testing.<br>c. Is repaired by the owner or operator and retested within 15 days of testing if it does not meet the described criteria.<br><br>**Specific Condition 40**<br>The permittee shall operate the vapor collection system and gasoline loading equipment in a manner that prevents: [§19.1005 (D)(2)(a)]<br><br>a. Gauge pressure from exceeding 4,500 Pascals (18 in. of H2O) and vacuum from exceeding 1,500 Pascals (6 in. of H2O) in the gasoline tank truck.<br><br>b. A reading equal to or greater than 100 percent of the lower explosive limit (LEL, measured as propane) at 2.5 centimeters from all points on the perimeter of a potential leak source when measured by the method referenced in §19.1004 (F)(3) during loading or unloading operations. | **Specific Condition 60**<br>(a) Limit the loading of gasoline into gasoline cargo tanks that are vapor tight using the procedures specified in § 60.502(e) through (j) of this chapter. For the purposes of this section, the term "tank truck" as used in § 60.502(e) through (j) of this chapter means "cargo tank" as defined in § 63.11100.<br>(NESHAP Subpart BBBBBB)<br><br>**Specific Condition 49**<br>The vapor collection and liquid loading equipment shall be operated to prevent gauge pressure in the delivery tank from exceeding 4,500 Pascals (450 mm of H2O) during product loading. This level is not to be exceeded when measured by the procedures specified in §60.503(d). [Regulation 19 §19.304 and 40 CFR Part §60.502(h)]<br>(NSPS Subpart XX)<br><br>**Specific Condition 52**<br>Immediately before the performance test required to determine compliance with §60.502 (b) and (h), the permittee shall use Method 21 to monitor for leakage of vapor all potential sources in the terminal's vapor collection system equipment while a gasoline tank truck is being loaded. The owner shall repair all leaks with readings |

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| | c. Avoidable visible liquid leaks during loading or unloading operations. | of 10,000 ppm (as methane) or greater before conducting the performance test. [Regulation 19 §19.304 and 40 CFR Part §60.503(b)]<br>(NSPS Subpart XX)<br><br>**Specific Condition 51**<br>Each calendar month, the vapor collection system, the vapor processing system, and each loading rack handling gasoline shall be inspected during the loading of gasoline tank trucks for total organic compounds liquid or vapor leaks. For this inspection, detection methods incorporating sight, sound, or smell are acceptable. Each detection of a leak shall be recorded and the source of the leak repaired within 15 calendar days after it is detected. [Regulation 19 §19.304 and 40 CFR Part §60.502(j)]<br>(NSPS Subpart XX) |
| Magellan NLR North Terminal<br>AFIN 60-00606<br>Permit # 0652-AR-9 | **Specific Condition 17**<br>The permittee shall not allow a gasoline tank truck to be filled or emptied at this facility unless the tank truck sustains a pressure change of no more than 750 pascals (3 inches of H2O) in five minutes when pressurized to a gauge pressure of 4,500 pascals (18 inches of H2O) or evacuated to a gauge pressure of 1,500 pascals (6 inches of H2O) during annual testing conducted using a test method approved by the Director and consistent with the test procedures described in Appendix A or C of the OAQPS Guideline Series document, "Control of Organic Compounds Leaks from Gasoline Tank Trucks and Vapor Collection | **Specific Condition 49**<br>1. Limit the loading of gasoline into gasoline cargo tanks that are vapor tight using the procedures specified in 40 C.F.R. § 60.502(e) through (j). For the purposes of this section, the term "tank truck" as used in 40 C.F.R. § 60.502(e) through (j) means "cargo tank" as defined in § 63.11100.<br>(NESHAP Subpart BBBBBB) |

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| | Systems," EPA-450/2-78-051. The provisions of §19.1005(D)(1)(c) shall not apply to this facility provided the facility does not allow any gasoline tank truck to fill or empty on its premises without providing proof of current certification under the testing requirements of §19.1005(D)(1)(a) and (b).<br><br>**Specific Condition 19**<br>The permittee shall operate the Vapor Combustion Unit (VCU) in a manner that prevents gauge pressure from exceeding 4,500 pascals (18 inches of water) and vacuum from exceeding 1,500 Pascals (6 inches of water) in the gasoline tank truck. [19.1005(D)(2)(a)(i)]<br><br>**Specific Condition 20**<br>The permittee shall operate the Vapor Combustion Unit (VCU) in a manner that prevents a reading equal or greater than 100% of the lower explosive limit (LEL, measured as propane) at 2.5 centimeters from all points on the perimeter of the potential leak source when measured using the specified method referenced in §19.1004(F)(3) during loading and unloading operations at the terminal. In the event that the vapor recovery system exceeds this limit, the equipment shall be repaired and retested within 15 days. [19.1005(D)(2)(a)(ii)]<br><br>**Specific Condition 21** | **Specific Condition 29**<br>The vapor collection and liquid loading equipment shall be designed and operated to prevent gauge pressure in the delivery tank from exceeding 4,500 Pascals (450 mm of water) during product loading. This level is not to be exceeded when measured by the procedures specified in 40 C.F.R. § 60.503(d).<br>(NSPS Subpart XX)<br><br>**Specific Condition 35(5)**<br>The following methods shall be used to determine the volume $_{(Vesi)}$ air-vapor mixture exhausted at each interval:<br>(i) Method 2B shall be used for combustion vapor processing systems.<br>(ii) Method 2A shall be used for all other vapor processing systems.<br>(NSPS Subpart XX)<br><br>**Specific Condition 31**<br>Each calendar month, the vapor collection system, the vapor processing system, and each loading rack handling gasoline shall be inspected during the loading of gasoline tank trucks for total organic compounds liquid or vapor leaks. For purposes of this paragraph, detection methods incorporating sight, sound, or smell are acceptable. Each detection of a leak shall be recorded and the source of the leak repaired within |

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| | The Vapor Combustion Unit (VCU) shall be operated in a manner that prevents visible liquid leaks during loading and unloading operations at the terminal. [19.1005(D)(2)(a)(iii)] | 15 calendar days after it is detected. [Reg.19.304 and 40 C.F.R. § 60.502 (j)]<br>(NSPS Subpart XX) |
| Magellan NLR South Terminal<br>AFIN 60-00574<br>Permit # 06752-AR-15 | **Specific Condition 8**<br>The Vapor Combustion Unit (VCU) shall be operated in a manner that prevents visible liquid leaks during loading and unloading operations at the terminal. Reg.19.1005 (D)(2)(a)(iii)<br><br>**Specific Condition 9**<br>The permittee shall operate the Vapor Combustion Unit (VCU) in a manner that prevents gauge pressure from exceeding 4,500 pascals (18 inches of water) and vacuum from exceeding 1,500 Pascals (6 inches of water) in the gasoline tank truck. Reg.19.1005 (D)(2)(a)(i)<br><br>**Specific Condition 10**<br>The permittee shall operate the Vapor Combustion Unit (VCU) in a manner that prevents a reading | **Specific Condition 50**<br>Each calendar month, the vapor collection system, the vapor processing system, and each loading rack handling gasoline shall be inspected during the loading of gasoline tank trucks for total organic compounds liquid or vapor leaks. For purposes of this paragraph, detection methods incorporating sight, sound, or smell are acceptable. Each detection of a leak shall be recorded and the source of the leak repaired within 15 calendar days after it is detected.<br>(NSPS Subpart XX)<br><br>**Specific Condition 29**<br>The vapor collection and liquid loading equipment shall be designed and operated to prevent gauge pressure in the delivery tank from exceeding 4,500 pascals (450 mm of water) during product loading. This level is not to be exceeded when measured by the procedures specified in 40 CFR §60.503(d).<br>(NSPS Subpart XX)<br><br>**Specific Condition 34**<br>The following methods shall be used to determine the volume $_{(Vesi)}$ air-vapor mixture exhausted at each interval: |

| | | |
|---|---|---|
| | equal or greater than 100% of the lower explosive limit (LEL, measured as propane) and 2.5 centimeters from all points on the perimeter of the potential leak source when measured using the method in Section 19.1004(F)(3) of Regulation #19 during loading and unloading operations at the terminal. In the event that the vapor recovery system exceeds this limit, the equipment shall be repaired and retested within 15 days. 19.1005 (D)(2)(a)(ii)<br><br>**Specific Condition 17**<br>The permittee shall not allow a gasoline tank truck to be filled or emptied at this facility unless the tank truck sustains a pressure change of no more than 750 pascals (3 inches of H2O) in five minutes when pressurized to a gauge pressure of 4,500 pascals (18 inches of H2O) or evacuated to a gauge pressure of 1,500 pascals (6 inches of H2O) during annual testing conducted using a test method approved by the Director and consistent with the test procedures described in Appendix A or C of the OAQPS Guideline Series document, "Control of Organic Compounds Leaks from Gasoline Tank Trucks and Vapor Collection Systems," EPA-450/2-78-051. The provisions of §19.1005(D)(1)(c) shall not apply to this facility provided the facility does not allow any gasoline tank truck to fill or empty on its premises without providing proof of current certification under the testing requirements of §19.1005(D)(1)(a) | (iii) Method 2B shall be used for combustion vapor processing systems.<br>(iv) Method 2A shall be used for all other vapor processing systems.<br>(NSPS Subpart XX)<br><br>**Specific Condition 49(d)**<br>Limit the loading of gasoline into gasoline cargo tanks that are vapor tight using the procedures specified in 40 CFR §60.502(e) through (j). For the purposes of this section, the term "tank truck" as used in 40 CFR §60.502(e) through (j) means "cargo tank" as defined in §63.11100.<br>(NSPS Subpart XX) |

| | | |
|---|---|---|
| | and (b). 19.1005(D)(1) | |
| Center Point Terminal Company<br>AFIN 60-01218<br>Permit # 2355-AR-2 | **Specific Condition 53**<br>No person shall allow a gasoline tank truck subject to this regulation to be filled or emptied unless the gasoline tank truck: [Reg. 19.1005(D)(1)] (a) is tested on a schedule acceptable to the Director according to the test procedure referenced in Reg. 19.1004(F)(3); (b) sustains a pressure change of no more than 750 pascals (3 inches of water [in. of H2O]) in five minutes when pressurized to a gauge pressure of 4,500 pascals (18 in. of H2O) or evacuated to a gauge pressure of 1,500 pascals (6 in. of H2O) during the testing required in Reg. 19.1005(D)(1)(a); and (c) is repaired by the owner or operator and retested within 15 days of testing if it does not meet the criteria of Reg. 19.1005(D)(1)(b)<br><br>**Specific Condition 54**<br>The owner or operator of a vapor collection system subject to this regulation shall: [Reg. 19.1005(D)(2)] (a) Design and operate the vapor collection system and the gasoline loading equipment in a manner that prevents: (i) Gauge pressure from exceeding 4,500 pascals (18 in. of H2O) and vacuum from exceeding 1,500 pascals (6 in. of H2O) in the gasoline tank truck; (ii) ii. A reading equal to or greater than 100 percent of the lower explosive limit (LEL, measured as propane) at 2.5 centimeters from all points on the perimeter of a potential leak source when measured by the method referenced in Reg. 19.1004(F)(3) during | **Specific Condition 18**<br>1. Loadings of liquid product into gasoline tank trucks shall be limited to vapor-tight gasoline tank trucks using the following procedures: [Reg.19.304 and 40 CFR §60.502(e)]<br>(a) The permittee shall obtain the vapor tightness documentation described in Specific Condition #30 for each gasoline tank truck which is to be loaded at the affected facility.<br>(NSPS Subpart XX)<br><br>**Specific Condition 21**<br>The vapor collection and liquid loading equipment shall be designed and operated to prevent gauge pressure in the delivery tank from exceeding 4,500 pascals (450 mm of water) during product loading.<br>(NSPS Subpart XX) |

| | | |
|---|---|---|
| | loading or unloading operations at gasoline dispensing facilities, bulk plants and bulk terminals; and (iii) v. Avoidable visible liquid leaks during loading or unloading operations at gasoline dispensing facilities, bulk plants and bulk terminals. (b) Within 15 days, repair and retest a vapor collection or control system that exceeds the limit in supporting Reg. 19.1005(D)(2)(a)(ii)above. | |

Each source subject to Rule 19.1005(D) is also subject to equivalent or more stringent federal requirements pursuant to applicable NSPS and NESHAPs. Therefore, repeal of 19.1005(D) will not result in any emission increase for sources currently subject to Rule 19.1005(D). Any new sources in this category constructed in Pulaski County would be subject to the applicable NSPS and NESHAPs.

No permits cited to Rule 19.1005(E), *Surface Coating of Metal Parts and Products*, or Rule 19.1005(F), *External Floating Roof*. Any new operation subject to these requirements that may locate in Pulaski County will be subject to applicable NESHAP and NSPS.

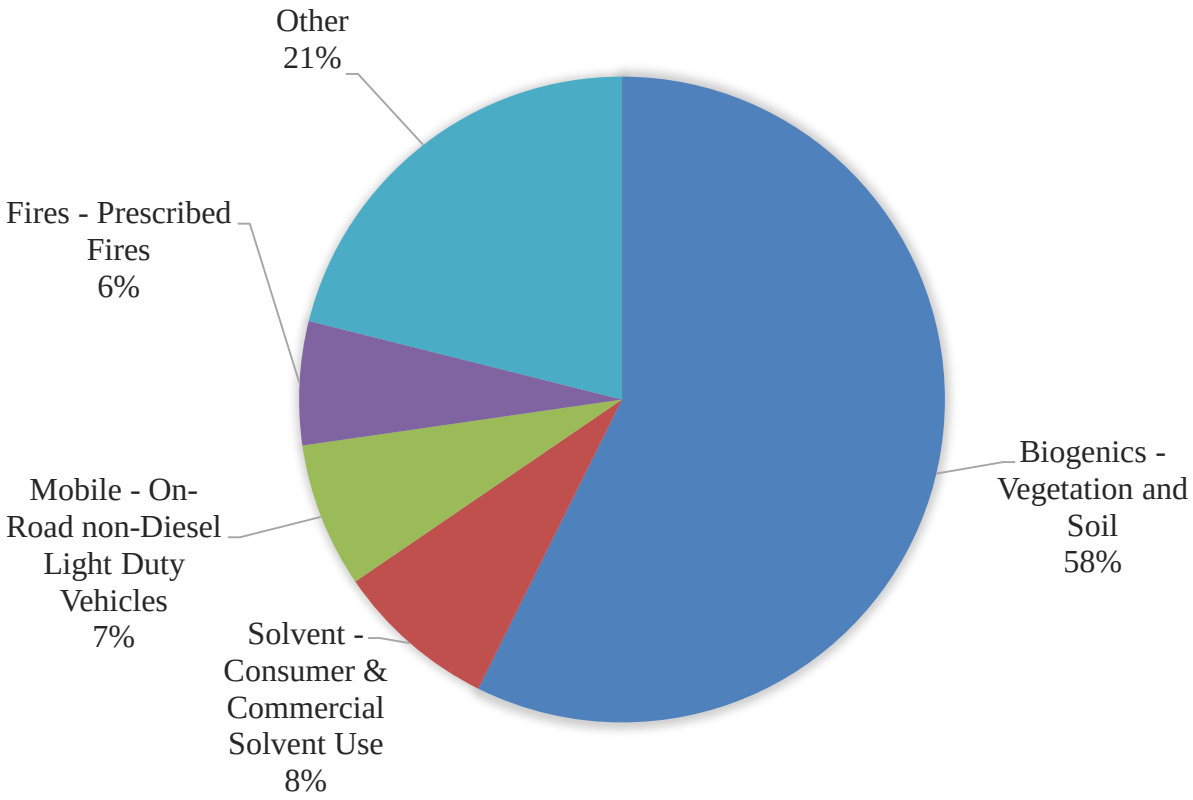
Rule 19.1005(C), *Cutback Asphalt*, will be retained in Rule 19 and in the SIP.

### B. Pulaski County Nitrogen Oxides Emission Inventory

Seventy-six percent of NOx emissions in Pulaski County come from mobile sources, including both on-road and non-road sources.[11] Point sources contribute approximately nine percent of emissions to the total Pulaski County NOx emission inventory. The largest contributing sectors to the Pulaski County NOx emission inventory are on-road diesel heavy duty vehicles—which contribute approximately twenty-nine percent of Pulaski County's NOx emissions—and on-road non-diesel light duty vehicles—which contribute approximately twenty-three percent of Pulaski County's NOx emissions. Figure 2 breaks down the relative contribution of various sectors to the NOx inventory in Pulaski County.

[11] 2017 National Emissions Inventory

**Figure 2: Pulaski County 2017 NOx Emission Inventory**




Rule 19, Chapter 10, *Regulations for the Control of Volatile Organic Compounds in Pulaski County*, does not include requirements associated with the control of NOx emissions in Pulaski County

### C. Trends in Ozone Precursor Emissions and Monitored Ozone Concentrations in Pulaski County

An examination of emissions of ozone precursors and monitored ozone concentrations in Pulaski County indicate that ozone concentrations in Pulaski County are not dependent upon VOC emissions. Ozone concentrations in Pulaski County have decreased markedly from 1980. A comparison of recent emission inventory data and ozone concentrations in Pulaski County indicate that ozone concentrations have decreased even as VOC concentrations in the county have increased.

Between 1980 and 2017, the ozone NAAQS was revised three times. In 1979, EPA promulgated a one-hour standard of 0.12 ppm with attainment defined as the expected number of calendar days per calendar year, with the maximum hourly average concentration greater than 0.12 ppm,

equal to or less than one. In 1997, EPA revised both the level and form of the standard to 0.08 ppm based on the annual fourth highest daily eight-hour maximum concentration averaged over three years. EPA subsequently revised the level, but retained the form of the standard, in 2008 and 2015. The level of the current standard is 0.07 ppm. To determine attainment status, a design value is computed based on time-weighted averages of the criteria pollutant in the air and the form of the standard. This design value is then compared to the standard.

Because the standard has been revised multiple times, including the form and averaging period, over the period between the initial nonattainment designation for Pulaski County and the present, the figures below illustrate annual trends in time-weighted average concentrations rather than design values. Figure 3 illustrates the number of daily one-hour exceedances of the 1980 0.12 ppm standard per year. Figure 4 illustrates the trend in the fourth highest daily maximum eight-hour concentration.

**Figure 3: Pulaski County Monitored Daily One-Hour Exceedances of 0.12 ppm**

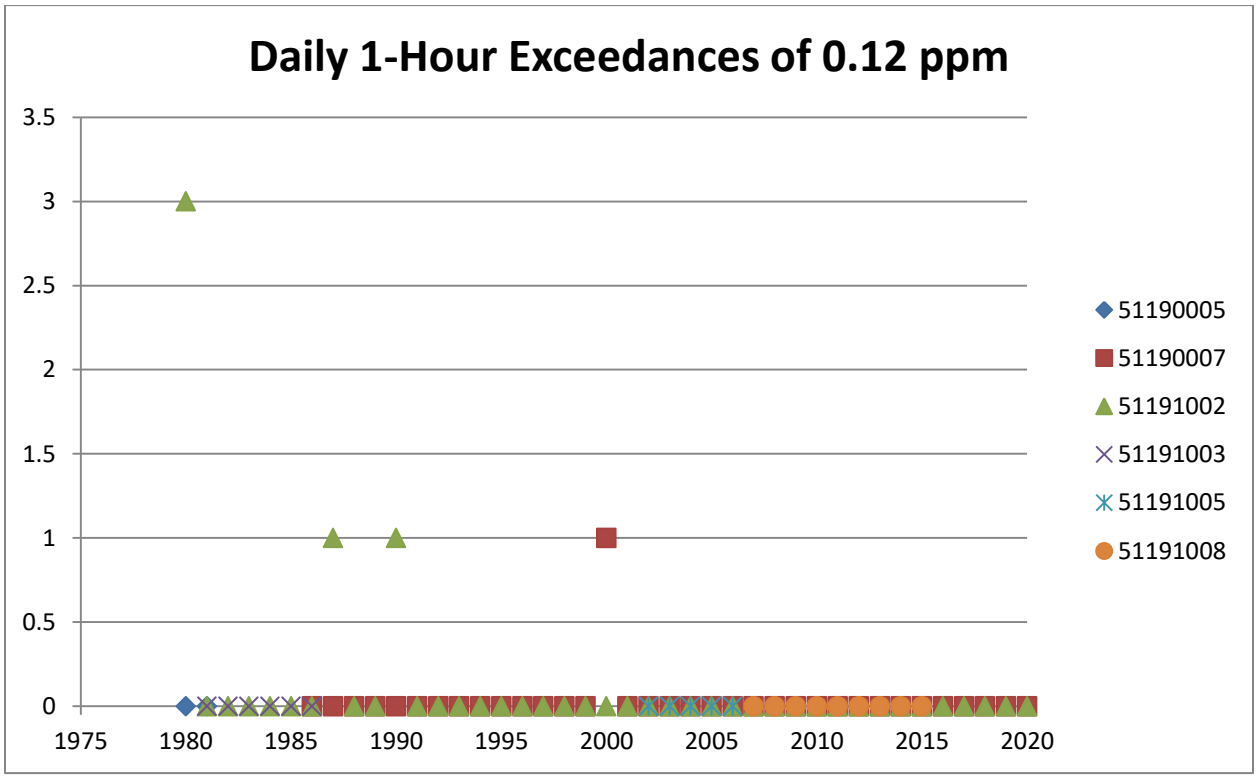
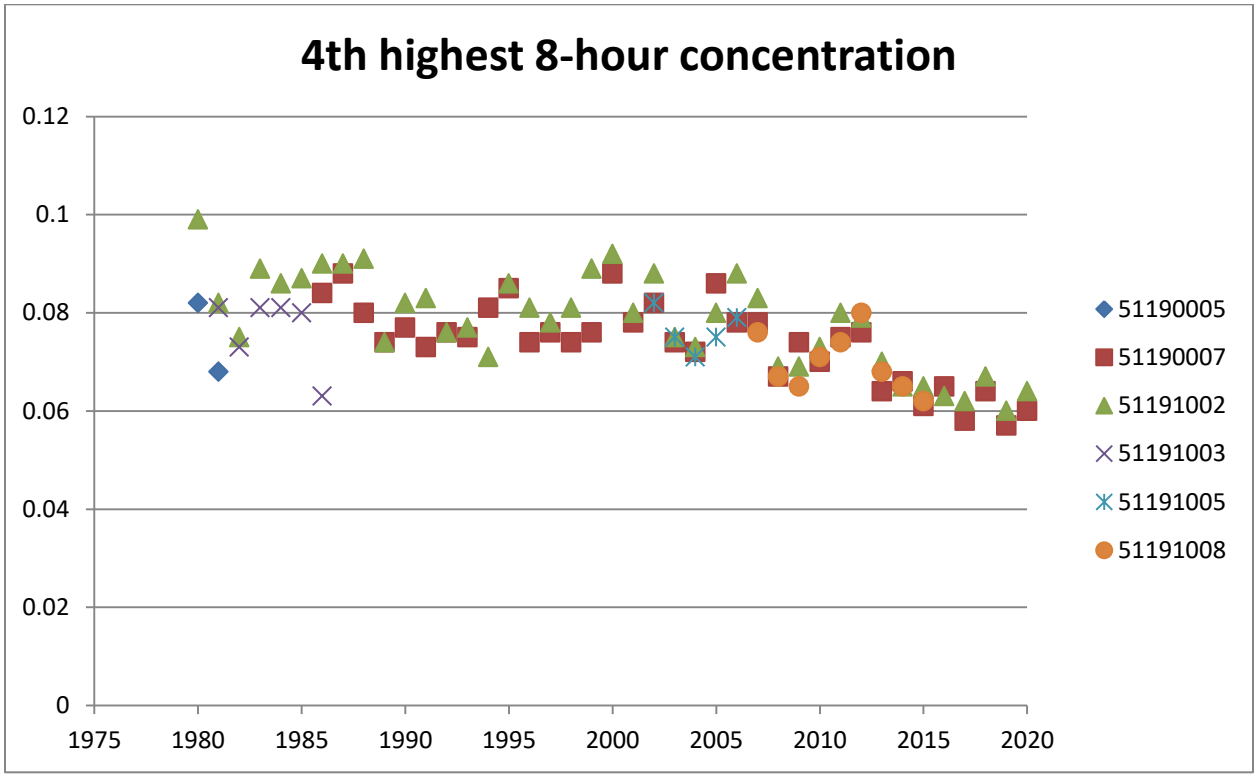


**Figure 4: Pulaski County Monitored Fourth Highest Daily Maximum Eight-Hour Concentration**




### D. Comparison of Ozone Precursor Trends and Ozone Concentration Trends

Although DEQ does not have comprehensive emission inventory data spanning back to the 1980s, DEQ has compared recent trends in emission inventory with recent trends in ozone concentrations. Between 2002 and 2017, the eight-hour ozone design value for Pulaski County decreased by twenty-seven percent. During this same period, VOC emissions in Pulaski County increased by fourteen percent through 2017and NOx emissions decreased by forty-four percent. This evidence suggests that ozone concentrations in Pulaski County have not been influenced by the changes in VOC emissions. Table 2 compares Pulaski County NOx and VOC emissions for each National Emission Inventory year from 2002–2017 to the three-year eight-hour ozone design value for Pulaski County for each corresponding year.

**Table 5: Comparison of 2002–2017 VOC and NOx Emissions to Ozone Eight-hour Design Values**

| | NOx Emissions (Tons) | VOC Emissions (Tons) | Ozone Design Value (Parts Per Million) |
|---|---|---|---|
| **2002** | 20,074 | 23,471.3 | 0.086 |
| **2005** | 18,337.46 | 21,712.18 | 0.077 |
| **2008** | 18,737.1 | 36,401.16 | 0.080 |
| **2011** | 17,998.51 | 37,895.49 | 0.074 |
| **2014** | 14,451.2 | 36,410.76 | 0.071 |
| **2017** | 11,247.23 | 27,374.51 | 0.063 |

## V. Specific Provisions of VOC Control Regulations for Pulaski County and Applicable Federal Standards

Specific provisions of the Pulaski County VOC control regulations were based on CTGs developed by EPA to define RACT for specific source categories in nonattainment areas. With the exception of cutback asphalt restrictions, the CTG upon which Rule 19, Chapter 10 are based have generally been incorporated into federal NSPS and NESHAPs. Therefore, removal of the provisions targeted from repeal from the SIP will not result in any increases of VOC emissions. As previously described, all sources subject to Rule 19.1005, except cutback asphalt, have permit conditions pursuant to federal NSPS and/or NESHAP that are at least as stringent as permit conditions derived from Rule 19.1005. Any new source belonging to the source categories subject to Rule 19.1005 would also be subject to the same NSPS and/or NESHAPs. A description of the overlapping requirements of Rule 19.1005 and the corresponding federal requirements is provided below.

### A. Gasoline Storage and Marketing

Provisions in Rule 19.1005(A) call for specific gasoline emission control measures for gasoline storage and marketing facilities. These requirements are not necessary because more recent federal requirements for gasoline storage and dispensing have been promulgated: National Emission Standards for Hazardous Air Pollutants (NESHAP) 40 CFR Part 63 Subparts CCCCCC (last revised January 24, 2011, 76 FR 4181), BBBBBB (last revised January 24, 2011, 76 FR 4176), and R (last revised December 22, 2008, 73 FR 78213). All five sources subject to the Pulaski County VOC regulation have permit conditions that specify the source is subject to NESHAP BBBBBB.

Rule 19.1005(A) regulates the loading of gasoline into a storage tanks or delivery vessels at gasoline storage or marketing facilities in Pulaski County. NESHAP Subpart BBBBBB regulates

the loading of gasoline into storage tanks and cargo tanks (delivery vessels) at area source gasoline bulk terminals, bulk plants, pipeline breakout stations and pipeline pumping stations nationwide. NESHAP Subpart BBBBBB also includes requirements for gasoline storage tanks and leak inspection for subject sources. NESHAP Subpart CCCCCC regulates loading of gasoline at area source gasoline dispensing facilities nationwide. NESHAP Subpart R regulates loading and storage of gasoline at bulk gasoline terminals and pipeline breakout stations that are at a major source.

Rule 19.1005(A)(1), requires that loading of gasoline into a storage tank of a gasoline storage or marketing facility with a monthly throughput in excess of 10,000 gallons may only occur through a submerged fill pipe or by bottom loading. Rule 19.1005(A)(1) includes an exception for storage tanks with less than 4,000 liters (1,000 gallons) capacity. NESHAP Subpart BBBBBB contains similar provisions for loading gasoline into storage tanks and cargo tanks at area source gasoline bulk plants; however, the requirement in NESHAP Subpart BBBBBB is not limited to facilities with a monthly throughput in excess of 10,000 gallons. In addition, tanks smaller than 250 gallons in capacity are not required to use a submerged fill pipe for loading. For those sources to which NESHAP Subpart BBBBBB requirements for gasoline loading are applicable, the requirements are at least as stringent as Rule 19.1005(A)(1).

Similar to Rule 19.1005(A)(1), NESHAP Subpart CCCCCC also requires loading of gasoline through a submerged fill pipe for gasoline dispensing facilities with a throughput of 10,000 gallons per month or greater, except for tanks with a capacity less than 250 gallons. In addition, NESHAP Subpart CCCCCC requires measures to prevent spills and vapor releases for facilities with a throughput less than 10,000 gallons monthly throughput and a vapor balance system for facilities with a monthly throughput of 100,000 gallons or more. For those sources subject to NESHAP Subpart CCCCCC, the requirements are at least as stringent as Rule 19.1005(A)(1).

Rule 19.1005(A)(2) and (A)(3) establish requirements for loading of gasoline into delivery vessels at bulk plants based on daily throughput. Rule 19.1005(A)(2) requires submerged fill pipe or bottom loading for loading of gasoline delivery vessels for facilities with a daily throughput less than 87,000 liters (23,000 gallons) at gasoline bulk facilities. Rule 19.1005(A)(3) requires a vapor control system to prevent emissions of gasoline vapors at a rate in excess of eighty milligrams per liter for facilities with daily throughput of 87,000 liters (23,000 gallons) or more.

NESHAP Subpart BBBBBB also establishes requirements based on daily throughput for gasoline racks at area source gasoline distribution bulk terminals, pipeline breakout stations, and pipeline pumping stations. Gasoline loading racks at these facility types with daily throughput less than 250,000 gallons are required to use submerged pipe for loading gasoline. Gasoline loading racks with a daily throughput of more than 250,000 gallons are required to equip a vapor collection system that limits emissions of total organic compounds to eighty milligrams per liter of gasoline loaded. For sources with a daily throughput between 23,000 gallons and 250,000

gallons, the requirements of Rule 19.1005(A)(3) may be more stringent; however, no sources exist in Pulaski County with a daily throughput in this range. With this exception, NESHAP Subpart BBBBBB is just as stringent as Rule 19.1005(A)(2) and (3) for subject facilities. A submerged fill pipe is also required for loading at area source gasoline bulk plants regardless of daily throughput if the tank capacity is 250 gallons or greater.

NESHAP Subpart R also includes emission control requirements for the loading of gasoline delivery vessels (cargo tanks) at major source bulk gasoline terminals that have a screening factor greater than one due to the terminal's operational parameters. Gasoline loading at facilities that do not screen out must have a vapor collection and processing system restricting emissions to less than ten milligrams of total organic compounds per liter of gasoline loaded, which is more stringent than required under Rule 19.1005(A)(3) for sources to which the requirement is applicable.

All three Subparts address recordkeeping requirements; however, Rule 19.1005(A) does not include specific recordkeeping requirements. Recordkeeping requirements generally applicable under Rule 19 are contained in Chapter 7. The NESHAP Subparts also discuss facility performance testing and the prevention and minimization of leaks and vapor releases. Removal of provisions from Rule 19, Chapter 10 associated with gasoline storage and marketing will not contribute to an increase in VOC emissions in Pulaski County.

### B. Petroleum Liquid Storage

Regulation 19.1005(B) calls for specific requirements for storage of petroleum liquids. Federal standards that have been promulgated for this source type include New Source Performance Standards (NSPS) 40 CFR Part 60 Subparts K, Ka, Kb, and XX. All five sources subject to the Pulaski County VOC regulations have permit conditions that specify the source is subject to either NSPS K or Kb; four are also subject to 40 CFR Part 60 Subpart XX.

Rule 19.1005(B)(1) requires owners of facilities storing volatile organic compounds with a true vapor pressure more than 10.5 kilopascals (1.52 psia) in tanks with a capacity greater than or equal to 150,000 liters (approximately 39,000 gallons) to:

(a) Meet equipment specifications and maintenance requirements of 40 CFR 60.110;
(b) Be retrofitted with a floating roof or internal floating cover using a non-metallic resilient seal as primary seal meeting specifications referred to in Rule 19.1005(B)(1)(a) or its equivalent; or
(c) Have a covered floating roof or internal floating cover that is maintained in effective working order and meets the manufacturer's equipment specifications in effect at the time it was installed.

NSPS Subpart K at 40 CFR § 60.110 applies to vessels with a tank capacity greater than 151,412 liters. Applicable requirements under 40 CFR § 60.110 differ based on vessel size classes: to

vessels with capacities greater than 151,416 liters and less than or equal to 246,052 liters and constructed after March 8, 1974 and before May 19, 1978 and vessels with capacities greater than 246,052 liters that were constructed after June 11, 1973 and before May 19, 1978. NSPS Subpart Ka at 40 CFR § 60.110a applies to storage vessels having a capacity greater than 151,416 liters but less than 1,589,873 liters. The Subpart further delineates vessel applicability with a commencement date starting after May 18, 1978 and a true vapor pressure that measures greater than or equal to 10.3 and less than or equal to 76.6 kPa. NSPS Subpart Kb at 40 CFR § 60.110b applies to storage vessels having a capacity greater than or equal to seventy-five cubic meters (75,000 liters) with a true vapor pressure greater than fifteen kPa or a capacity greater than or equal to 151,000 liters with a true vapor pressure greater than 3.5 kPa where construction or reconstruction started after July 23, 1984. DEQ finds that for NSPS Subpart K and Subpart Ka, the vessel capacity size to which the NSPS requirements apply is similar to, but less inclusive than in Rule 19.501(B)(1). However, the vessel capacity size described in the applicability for NSPS Subpart Kb is approximately half that in Rule 19.1501(B)(1) and, therefore, more inclusive for those vessels constructed after July 23, 1984.

Similar to Rule 19.1005(B)(1), each of the NSPS Subparts provide compliance options including use of a floating roof, covered floating roof, or internal floating roof. A vapor collection system or equivalent to any of the equipment options is also permissible under the NSPS Subparts. For higher vapor pressures the NSPS Subparts require a vapor recovery system or its equivalent. Rule 19.1005(B)(1)(a) also provides that compliance with the equipment and maintenance requirements at 40 CFR § 60.110 satisfies the requirements of Rule 19.1005(B)(1). DEQ finds that the control equipment requirements of NSPS Subparts K, Ka, and Kb are at least equivalent to and in some cases more stringent than Rule 19.1005(B).

Rule 19.1005(B)(2) requires all seals necessary to meet the requirements of Rule 191005(B)(1)(b) and (c) are maintained in good operating condition. All three NSPS Subparts provide in greater detail how control equipment is to be maintained and tested.

Rule 19.1005(B)(3) requires all openings, except stub drains and those related to safety, are to be sealed with suitable closures when not in use. NSPS Subparts Ka and Kb provide more detailed requirements regarding seals and closures.

Based on DEQ's review of NSPS Subparts K, Ka, Kb, and XX, DEQ has determined that petroleum liquid storage vessels regulated under Rule 19.1005(B) are also regulated by NSPS requirements that are at least as stringent as Rule 19.1005(B). Removal of provisions from Rule 19, Chapter 10 associated with petroleum liquid storage will not contribute to an increase in VOC emissions in Pulaski County.

### C. Cutback Asphalt

Rule 19, Chapter 10 restricts the application of cutback asphalt, except when used as a penetrating prime coat only, to general application only when the ambient temperature is below fifteen degrees Celsius (fifty-nine degrees Fahrenheit). VOC emissions from asphalt application in Pulaski County account for far less than one percent of the VOC emission inventory. However, because it is difficult to impossible to quantify VOC emissions from this category, DEQ proposes retaining language related to cutback asphalt within Rule 19, Chapter 10 and the SIP.

### D. Gasoline Tank Trucks and Vapor Collection Systems

Gasoline Tank Truck and Vapor Collection System provisions included in Rule 19, Chapter 10 were based on the CTG "Control of Volatile Organic Compound Leaks Gasoline Tank Trucks and Vapor Collection Systems." All five sources subject to the Pulaski County VOC regulation have permit conditions that specify the source is subject to NESHAP BBBBBB.

Regulation 19.1005(D) specifies requirements for gasoline tank trucks and vapor collection systems. Federal standards that have been promulgated for this source type include NESHAP 40 CFR Part 63 Subparts R, BBBBBB, and CCCCCC. Rule 19.1005(D) is applicable to all gasoline tank trucks and vapor recovery systems in Pulaski County. The referenced NESHAPs are applicable nationwide, but each cover a subset of sources covered under Rule 19.1005(D).

Rule 19.1005(D)(1) includes requirements applicable to all gasoline tank trucks in Pulaski County. NESHAP Subpart R applies to bulk gasoline terminals, but also includes vapor tightness requirements for gasoline cargo tanks, including gasoline tank trucks and railcars loading gasoline at subject bulk gasoline terminals. NESHAP Subpart BBBBBB applies to area source bulk gasoline terminals and pipeline breakout stations not subject to NESHAP Subpart R, as well as area source pipeline pumping stations and area source bulk gasoline plants. NESHAP Subpart BBBBBB includes requirements for gasoline cargo tanks, including gasoline tank trucks and railcar cargo tanks, loading gasoline at subject area sources. NESHAP CCCCCC includes requirements for gasoline dispensing facilities (GDF), but also includes requirements for gasoline cargo tanks, including gasoline tank trucks and rail cars, unloading at GDFs with a monthly throughput of 100,000 gallons of gasoline or more.

Rule 19.1005(D)(1) requires that each subject gasoline tank truck is tested for leak tightness based on procedures approved by the Director that are consistent with the procedures described in "Control of Organic Compound Leaks from Gasoline Tank Trucks and Vapor Collection Systems," EPA-450/2-78-051. This method is a pressure and vacuum test that must be performed annually. NESHAP Subparts BBBBBB and CCCCCC require an annual certification test using a pressure-based test or bubble leak test for gasoline cargo tanks at subject facilities. NESHAP

Subpart R requires an annual certification of gasoline cargo tanks at subject facilities using a pressure and vacuum test.

Rule 19.1005(D)(2) specifies requirements for vapor collection systems for gasoline loading and unloading operations. Specifically, Rule 19.1005(D)(2) requires (a) that a vapor collection system and gasoline loading equipment (i) prevents gauge pressure from exceeding 4,500 pascals and vacuum from exceeding 1,500 pascals in the gasoline tank truck; (iii) prevents a reading greater than or equal to one hundred percent of the lower explosive limit at 2.5 centimeters from all points of a leak source; and (iii) prevents avoidable visible liquid leaks during loading or unloading operations at gasoline dispensing facilities, bulk plants, and bulk terminals. NESHAP Subpart R, BBBBBB, and CCCCCC specify that vapor collection systems be operated so as not to exceed the applicable certification test limits—which are based on pressure and vacuum change—for gasoline cargo tanks. All three NESHAP Subparts include requirements to prevent spills and vapor release for subject facilities. While the NESHAP Subparts contain different metrics than Rule 19.1005(D)(2) for vapor collection system and gasoline loading equipment into gasoline tank trucks (gasoline cargo tanks), both Rule 19.1005(D)(2) and the NESHAP Subparts requirements are designed to prevent the release of vapors during gasoline loading and unloading operations. Removal of provisions from Rule 19, Chapter 10 associated with gasoline tank trucks and vapor collection systems will not contribute to an increase in VOC emissions in Pulaski County.

### E. Surface Coating of Metal Parts and Products

The metal surface coating VOC provisions in Rule 19 Chapter 10 were based on the CTG "Control of Volatile Organic Emissions from Stationary Sources - Volume VI: Surface Coating of Miscellaneous Metal Parts and Products."[12] There are no permitted facilities with this process located in Pulaski County that emit VOCs. New sources that choose to construct in Pulaski County will be subject to the NESHAPs and NSPS described below.

Regulation 19.1005(E) specifies requirements for surface coating of metal parts and products. The following federal standards also regulate surface coating of metal parts and products: NESHAP Subparts KKKK, SSSS, MMMM, and RRRR, and NSPS Subparts TT and EE. Rule 19.1005(E) sets VOC emission limits based on the type of surface coating and specifies how these emission limits shall be met. NSPS Subparts TT and EE also set VOC emission limits and controls; whereas, NESHAP Subparts KKKK, SSSS, MMMM, and RRRR establish emission standards for hazardous air pollutants (HAP). These HAP are also VOC.
Rule 19.1005(E) is applicable to all metal surface coating operations in Pulaski County. NSPS Subpart TT is applicable nationwide to metal coil surface coating operations that commenced

[12] "Control of Volatile Organic Emissions from Stationary Sources - Volume VI: Surface Coating of Miscellaneous Metal Parts and Products." EPA-450/2-78-015 (OAQPS No. 1.2-101) June 1978.

construction, modification, or reconstruction after January 5, 1981. NSPS Subpart EE is applicable nationwide to new, modified, or reconstructed metal furniture surface coating operations for which construction commenced after November 28, 1980. Facilities that use less than 3,842 liters of coating per year and keep purchase or inventory records may be exempted from requirements under NSPS Subpart EE. NESHAP Subpart KKKK is applicable nationwide to metal can surface coating operations that use 5,700 liters per year or more of coatings and that is a major source, is located at a major source, or is part of a major source of emissions of HAP. NESHAP Subpart SSSS is applicable nationwide to metal coil surface coating operations at a facility that is a major source of HAP with some exceptions for coil coating line that is part of research or laboratory equipment and coil coating line on which at least eighty-five percent of the metal coil coated is less than 0.15 millimeter thick. NESHAP Subpart MMMM is applicable nationwide for surface coating of miscellaneous metal parts and products with certain exceptions. NESHAP Subpart RRRR is applicable nationwide for metal furniture surface coating operations located at major sources of HAP emissions with certain exceptions.

Rule 19.1005(E)(1) establishes the following VOC emission limits from application systems (excluding water) from coating and solvent washing unless solvent is routed into evaporation-preventing containers:

(a) 0.52 kilograms/liter (kg/l) of coating through an applicator of clear coats;
(b) 0.42 kg/l of coating through a system that uses air or forced air dryers;
(c) 0.42 kg/l of coating through a system that applies extreme performance coating; and
(d) 0.36 kg/l of coating for all other types of coating systems.

Rule 19.1005(E)(2) requires the compliance with the more stringent emission limitation if multiple emission limitations apply to a given operation.

The emission limits contained in NSPS Subpart TT at 40 CFR § 60.462 are more stringent than any of the emission limits contained Rule 19.1005(E)(1). EPA claims that NSPS Subpart TT would reduce VOC emissions from a typical plant by approximately seventy-two percent in states that had adopted the CTG level of control that is represented in Rule 19.1005(E)[13]. The emission limits contained in the relevant NESHAPs are not directly comparable to the emission limits in Rule 19.1005(E) because the emission limits are set for HAPs rather than total VOC.

Rule 19.1005(E)(3) requires compliance with the emission limits at Rule 19.1005(E)(1) to be achieved by use of:

(a) A low solvent coating technology;
(b) A system that, at minimum, oxidizes ninety percent of non-methane VOC; or

[13] See Rule Summary at https://www.epa.gov/stationary-sources-air-pollution/metal-coil-surface-coating-new-source-performance-standards-nsps

(c) Director-approved equivalent means of VOC removal.

Rule 19.1005(E)(4) requires that, for those operations that choose to comply with Rule 19.1005(E)(3)(b) or (c), a capture system that provides an overall VOC emission reduction efficiency of at least eighty percent must also be used. NSPS Subparts TT and EE do not require use of a certain technology to achieve the emission standards, but they provide a more thorough description of monitoring, test methods, and procedures requirements than Rule 19.1005(E).

NESHAP Subpart KKKK offers four compliance options:

(a) Use of emission limit-compliant material for coating;
(b) Meeting the emission rate without add-on control;
(c) Meeting use of emission capture systems and add on controls; and
(d) Demonstration that total hydrocarbon are reduced by ninety-five percent or greater by emission capture systems and add-on controls or that outlet total hydrocarbon emissions are less than or equal to twenty ppm by volume, dry basis.

NESHAP Subpart MMMM and RRRR provide three compliance options:

(a) Use of emission limit-compliant material for coating;
(b) Meeting the emission rate without add-on control; and
(c) Meeting use of emission capture systems and add-on controls.

NESHAP Subpart SSSS provides four options for compliance:

(a) Use of "as purchased" emission limit compliant coatings;
(b) Use of "as applied" emission limit compliant coatings;
(c) Use of a emission capture system and control device; and
(d) Use of a combination of compliant coatings and control devices. The control techniques discussed in the compliance options for NESHAP Subpart KKKK, SSSS, RRRR, and MMMM are similar to the control techniques provided for in Rule 19.1005(E)(3).

### F. External Floating Roof

The floating roof VOC provision in Rule 19, Chapter 10 was based on the CTG "Control of Volatile Organic Emissions from Petroleum Liquid Storage in External Floating Roof Tanks."[14] The following federal standards pertaining to petroleum liquid storage also details requirements for external floating roofs: NSPS Subparts K and Kb. All five sources subject to the Pulaski County VOC regulation have permit conditions that specify the source is subject to NSPS K or Kb. There are no permitted facilities with this process located in Pulaski County. If a new source chooses to construct in Pulaski County, they will be subject to NSPS K and/or Kb.

[14] Control of Volatile Organic Emissions from Petroleum Liquid Storage in External Floating Roof Tanks" EPA-450/2-78-047 OAQPS No. 1.2-116 December 1978

Rule 19.1005(F) is applicable to all storage vessels with an external floating roof with a capacity greater than 150,000 liters that store VOC with a true vapor pressure more than 10.5 kilopascals with the following exceptions: external floating roof tanks with capacities less than 1,600,000 liters used to store produced crude oil and condensate prior to custody transfer, metallic-type shoe seal in a welded tank that has a secondary seal from the top of the shoe to the tank wall, and external floating roof tanks storing waxy, heavy pour crudes.

NSPS Subpart Kb at 40 CFR § 60.110b applies to storage vessels that have a capacity greater than or equal to seventy-five cubic meters (75,000 liters) with a true vapor pressure greater than 15.kPa or a capacity equal to or greater than 151,000 with a true vapor pressure greater than 3.5 kPa where construction or reconstruction started after July 23, 1984.

The vessel capacity size described in the applicability for NSPS Subpart Kb is approximately half of that in Rule 19.1501(F)(1) and therefore more inclusive with respect to volume for those vessels constructed after July 23, 1984. In addition, Subpart Kb is somewhat less inclusive because it applies only to storage of petroleum liquids; whereas, Rule 19.1501(F) applies to storage vessels of VOC, a broader group of compounds than petroleum liquids.

For subject VOC storage tanks, Rule 19.1005 requires the following:

(a) The storage tank has been fitted with a continuous secondary seal or a control device;
(b) Seal closures have no visible holes, tears, or other openings, or gaps in vapor mounted seals do not exceed 21.2 square centimeters;
(c) All openings in the external floating roof provide a projection below the liquid surface and are sealed when not in use;
(d) Bleeder vents are closed at all times;
(e) Rim vents are set to open when the roof is being floated off the leg supports; and
(f) Emergency roof drains are provided with slotted membrane fabric covers or equivalent to cover ninety percent of the opening.

NSPS Subpart Kb includes all of the requirements for external floating roofs contained in Rule 19.1005(F)(1)(a) through (f).

## VI. Federal Regulations to Reduce VOC and NOx Emissions Since 1979

Table 6 lists specific federal regulations to reduce VOC and NOx emissions that have been promulgated or amended since 1979. Each of these rules has helped reduce emissions of VOC and/or NOx nationwide.

**Table 6: Existing Federal Regulations to Reduce VOC and NOx Emissions**

| Rule | CFR Location | Promulgated | Amended |
|---|---|---|---|
| "National Emission Standards for Hazardous Air Pollutants From the Portland Cement Manufacturing Industry and Standards of Performance for Portland Cement Plants; Final Rule" | 40 CFR Part 60 Subpart F | 1971 | 1974, 1977, 1988, 2010, 2013, 2015 |
| "Nitric Acid Plants: New Source Performance Standards" | 40 CFR Part 60 Subparts G & Ga | 1971 | 1974, 2012, 2014 |
| "Hot Mix Asphalt Facilities: New Source Performance Standards" | 40 CFR Part 60 Subpart I | 1974 | 1975, 1977, 1986 |
| "Ferroalloy Production Facilities: New Source Performance Standards" | 40 CFR Part 60 Subpart Z | 1976 | |
| "Electric Utility Steam Generating Units (Boilers): New Source Performance Standards" | 40 CFR Part 60 Subpart Da | 1979 | 1998, 2006, 2007, 2012 |
| "Stationary Gas and Combustion Turbines: New Source Performance Standards" | 40 CFR Part 60 Subparts GG & KKKK | 1979 | 1982, 2003, 2004, 2006, |
| "Stationary Gas and Combustion Turbines: New Source Performance Standards" | 40 CFR Part60 Subparts GG & KKKK | 1979 | 1982, 1987, 2003, 2004, 2006, 2009 |
| "Glass Manufacturing Plants New Source Performance Standards" | 40 CFR Part 60Subpart CC | 1980 | 1989 |
| "Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973, and Prior to May 19, 1978" | 40 CFR Part 60 Subpart K | 1980 | -- |
| "Automobile and Light-Duty Truck Surface Coating Operations: New Source Performance Standards" | 40 CFR Part 60 Subpart MM | 1980 | 1990, 1994 |
| "Surface Coating of Metal Furniture: New Source Performance Standards" | 40 CFR Part 60 Subpart EE | 1982 | 1985, 1990, 2000 |
| "Publication Rotogravure Printing (Graphic Arts Industry): New Source Performance Standards" | 40 CFR Part 60 Subpart QQ | 1982 | 2000 |
| "Large Appliances (Industrial Surface Coating): New Source Performance Standards" | 40 CFR Part 60 Subpart SS | 1982 | |

| Rule | CFR Location | Promulgated | Amended |
|---|---|---|---|
| "Metal Coil Surface Coating: New Source Performance Standards" | 40 CFR Part 60 Subpart TT | 1982 | 1990, 2000, 2002, 2003 |
| "Asphalt Processing and Asphalt Roofing Manufacture: New Source Performance Standards" | 40 CFR Part 60 Subpart UU | 1982 | -- |
| "Pressure Sensitive Tape and Label Surface Coating Industry: New Source Performance Standards" | 40 CFR Part 60 Subpart RR | 1983 | 1990, 2000 |
| "Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for Which Construction, Reconstruction, or Modification Commenced After November 7, 2006" | 40 CFR Part 60 Subpart VV-Vva | 1983 | -- |
| "Beverage Can Surface Coating Industry: New Source Performance Standards" | 40 CFR Part 60 Subpart WW | 1983 | 1990, 2000 |
| "Flexible Vinyl and Urethane Coating and Printing: New Source Performance Standards" | 40 CFR Part 60 Subpart FFF | 1984 | 2000 |
| "Equipment Leaks of Volatile Organic Compounds (VOC) in Petroleum Refineries: New Source Performance Standards" | 40 CFR Part 60 Subparts GGG & GGGG | 1984 | 2007, 2008 |
| "Synthetic Fiber Production Facilities: New Source Performance Standards" | 40 CFR Part 60 Subpart HHH | 1984 | 2000 |
| "Petroleum Dry Cleaners: New Source Performance Standards" | 40 CFR Part 60 Subpart JJJ | 1984 | 2000 |
| "Equipment Leaks of Volatile Organic Compounds From Onshore Natural Gas Processing Plants for Which Construction, Reconstruction, or Modification Commenced After January 20, 1984, and on or Before August 23, 2011: New Source Performance Standards" | 40 CFR Part60 Subpart KKK | 1985 | 2000, 2012 |
| "Wool Fiberglass Insulation Manufacturing Plants: New Source Performance Standards" | 40 CFR Part 60 Subpart PPP | 1985 | -- |
| "Standards of Performance for New Stationary Sources; Rubber Tire Manufacturing Industry" | 40 CFR Part 60 Subpart BBB | 1987 | 1989 |

| Rule | CFR Location | Promulgated | Amended |
|---|---|---|---|
| "Industrial-Commercial-Institutional Steam Generating Units: New Source Standards of Performance" | 40 CFR Part 60 Subparts Dd & Dc | 1987 | 1989, 2006, 2009, 2012, 2014 |
| "Volatile Organic Compounds (VOC) Emissions from Petroleum Refinery Wastewater Systems: New Source Performance Standards" | 40 CFR Part 60 Subpart QQQ | 1988 | 1995 |
| "Magnetic Tape Manufacturing Industry: New Source Performance Standards" | 40 CFR Part 60 Subpart SSS | 1988 | 1988 |
| "Surface Coating of Plastic Parts for Business Machines (Industrial Surface Coating): New Source Performance Standards" | 40 CFR Part 60 Subpart TTT | 1988 | 1989, 2000 |
| "Polymeric Coating of Supporting Substrates Facilities: New Source Performance Standards" | 40 CFR Part 60 Subpart VVV | 1989 | -- |
| "Polymer Manufacturing Industry: Standards of Performance for Volatile Organic Compound (VOC) Emissions" | 40 CFR Part 60 Subpart DDD | 1990 | -- |
| "Standards of Performance for Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes" | 40 CFR Part 60 Subpart III | 1990 | -- |
| "Standards of Performance for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations" | 40 CFR Part 60 Subpart MMM | 1990 | -- |
| "Benzene Transfer Operations: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart BB | 1990 | -- |
| "Benzene Waste Operations: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart FF | 1990 | 2003 |
| "Standards of Performance for Volatile Organic Compound Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes" | 40 CFR Part 60 Subpart RRR | 1993 | -- |
| "Dry Cleaning Facilities: National Perchloroethylene Air Emission Standards" | 40 CFR Part 63 Subpart M | 1993 | 1996, 1999, 2003, 2006, 2008 |
| "Halogenated Solvent Cleaning: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart I | 1994 | 1998, 1999, 2000, 2007 |

| Rule | CFR Location | Promulgated | Amended |
|---|---|---|---|
| "Synthetic Organic Chemical Manufacturing Industry: Organic National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subparts F, G, H, I | 1994 | 1995, 1996, 1997, 1998, 2006 |
| "Magnetic Tape Manufacturing Operations: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart EE | 1994 | 1999, 2006 |
| "Final Rule for Standards for Emissions From Natural Gas-Fueled, and Liquefied Petroleum Gas-Fueled Motor Vehicles and Motor Vehicle Engines, and Certification Procedures for Aftermarket Conversions" | 40 CFR Parts 80, 85, 86, 88, 600 | 1994 | -- |
| "Marine Vessel Loading Operations: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart Y | 1995 | 2011 |
| "Shipbuilding and Ship Repair (Surface Coating): National Emission Standards for Hazardous Air Pollutant" | 40 CFR Part 63 Subpart II | 1995 | 1996, 2000, 2003, 2011 |
| "Wood Furniture Manufacturing Operations: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart JJ | 1995 | 1998, 2011 |
| "Final Rule on Ozone Transport Commission; Low Emission Vehicle Program for the Northeast Ozone Transport Region" | 40 CFR Parts 51, 52, and85 | 1995 | -- |
| "Final Rule for Control of Air Pollution; Emission Standards for New Nonroad Spark-Ignition Engines At or Below 19 Kilowatts" | 40 CFR Parts 9 & 90 | 1995 | -- |
| "Municipal Solid Waste Landfills: New Source Performance Standards (NSPS), Emission Guidelines (EG) and Compliance Times" | 40 CFR Part 60 Subparts Cf, WWW, and XXX | 1996 | 1998, 1999, 2000, 2016 |
| "Off-Site Waste and Recovery Operations (OSWRO): National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart DD | 1996 | 2001, 2015 |
| "Group I Polymers and Resins: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart U | 1996 | 1997, 2000, 2008, 2011 |
| "The Printing and Publishing Industry: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart KK | 1996 | 2006, 2011 |

| Rule | CFR Location | Promulgated | Amended |
|---|---|---|---|
| "Final Rule for Gasoline Spark-Ignition Marine Engines; Exemptions for New Nonroad Compression-Ignition Engines at or Above 37 Kilowatts and New Nonroad Spark-Ignition Engines at or Below 19 Kilowatts" | 40 CFR Parts 89, 90, & 91 | 1996 | -- |
| "Final Rule for Revised Carbon Monoxide (CO) Standard for Class I and II Nonhandheld New Nonroad Phase 1 Small Spark-Ignition Engines" | 40 CFR Part 90 | 1996 | -- |
| "Acid Rain Program" | 40 CFR Part72-78 | 1996 | 2000 |
| "Final Rule for Control of Air Pollution From New Motor Vehicles and New Motor Vehicle Engines: Voluntary Standards for Light-Duty Vehicles" | 40 CFR Parts 85 & 86 | 1997 | -- |
| "Final Rule for Control of Emissions of Air Pollution From Highway Heavy-Duty Engines" | 40 CFR Parts 9 & 86 | 1997 | -- |
| "Direct Final Rule for Control of Air Pollution From Aircraft and Aircraft Engines; Emission Standards and Test Procedures" | 40 CFR Part 87 | 1997 | 2005, 2012 |
| "Final Rule for Amendment to Emission Requirements Applicable to New Gasoline Spark-Ignition Marine Engines" | 40 CFR Part 91 | 1997 | -- |
| "Flexible Polyurethane Foam Production: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart III | 1998 | 2014 |
| "Pharmaceuticals Production Industry: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart GGG | 1998 | 2000, 2001, 2005, 2011 |
| "Pulp and Paper Production (MACT I & III): National Emissions Standards for Hazardous Air Pollutants for Source Categories" | 40 CFR Part 63 Subpart S | 1998 | 1999, 2000, 2001, 2012 |
| "Final Rule for Control of Air Pollution From New Motor Vehicles and New Motor Vehicle Engines: State Commitments to National Low Emission Vehicle Program" | 40 CFR Parts 9, 85, & 86 | 1998 | -- |
| "Final Rule for Control of Air Pollution From Motor Vehicles and New Motor Vehicle Engines; Modification of Federal Onboard Diagnostic Regulations for Light-Duty Vehicles and Light-Duty Trucks; Extension of Acceptance of California OBD" | 40 CFR Part 86 | 1998 | -- |

| Rule | CFR Location | Promulgated | Amended |
|---|---|---|---|
| "Final Rule for Control of Air Pollution From Motor Vehicles and New Motor Vehicle Engines; Increase of the Vehicle Mass for 3-Wheeled Motorcycles" | 40 CFR Part 86 | 1998 | -- |
| "Final Rule for Emission Standards for Locomotives and Locomotive Engines" | 40 CFR Parts 85 ,89, & 92 | 1998 | -- |
| "Final Rule for Control of Emissions of Air Pollution From Nonroad Diesel Engines" | 40 CFR Parts 9, 86, 89 | 1998 | -- |
| "Natural Gas Transmission and Storage Facilities: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart HHH | 1999 | 2012 |
| "Oil and Natural Gas Production Facilities: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart HH | 1999 | 2007, 2012 |
| "Pesticide Active Ingredient Production Industry: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart MMM | 1999 | 2001, 2002, |
| "Polyether Polyols Production: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart PPP | 1999 | 2014 |
| "Publicly Owned Treatment Works (POTW): National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart VVV | 1999 | 2001, 2002, 2017 |
| "Final Rule for Control of Emissions of Air Pollution From New Marine Compression Ignition Engines at or Above 37 kW" | 40 CFR Parts 89, 92, & 94 | 1999 | -- |
| "Final Rule for Phase 2 Emission Standards for New Nonroad Spark-Ignition Nonhandheld Engines At or Below 19 Kilowatts" | 40 CFR Part 90 | 1999 | -- |
| "Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984" | 40 CFR Part 60 Subpart Ka | 2000 | -- |
| "Manufacture of Amino/Phenolic Resins: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart OOO | 2000 | 2014 |
| "Final Rule for Control of Air Pollution From New Motor Vehicles: Tier 2 Motor Vehicle Emissions Standards and Gasoline Sulfur Control Requirements" | 40 CFR Parts 80, 85, & 86 | 2000 | -- |
| "Final Rule for Control of Emissions of Air Pollution from 2004 and Later Model Year Heavy-Duty Highway Engines and Vehicles; Revision of Light-Duty On-Board Diagnostics Requirements" | 40 CFR Part 85 & 86 | 2000 | -- |

| Rule | CFR Location | Promulgated | Amended |
|---|---|---|---|
| "Final Rule for Phase 2 Emission Standards for New Nonroad Spark-Ignition Handheld Engines At or Below 19 Kilowatts and Minor Amendments to Emission Requirements Applicable to Small Spark-Ignition Engines and Marine Spark-Ignition Engines" | 40 CFR Parts 90 & 91 | 2000 | -- |
| "NOx Budget Trading Program" | 40 CFR Part 97 | 2000 | -- |
| "Boat Manufacturing: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart VVVV | 2001 | -- |
| "Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills (MACT II): National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources" | 40 CFR Part 63 Subpart MM | 2001 | 2003, 2004, 2017 |
| "Solvent Extraction for Vegetable Oil Production: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart GGGG | 2001 | 2002, 2004 |
| "Final Rule for Control of Emissions of Hazardous Air Pollutants From Mobile Sources" | 40 CFR Parts 80 & 86 | 2001 | -- |
| "Surface Coating of Large Appliances: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart NNNN | 2002 | -- |
| "Leather Finishing Operations: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart TTTT | 2002 | 2005, 2019 |
| "Surface Coating of Metal Coil: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart SSSS | 2002 | 2003 |
| "Paper and Other Web Coating: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart JJJJ | 2002 | 2006 |
| "Petroleum Refineries (Catalytic Cracking, Catalytic Reforming and Sulfur Recovery Units): National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart UUU | 2002 | 2005 |
| "Refractory Products Manufacturing: National Emissions Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart SSSSS | 2002 | -- |
| "Rubber Tire Manufacturing: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart XXXX | 2002 | 2003 |
| "Final Rule for Control of Emissions From Nonroad Large Spark-Ignition Engines, and Recreational Engines (Marine and Land-Based)" | 40 CFR Parts 1048, 1051, 1065, 1068 | 2002 | -- |

| Rule | CFR Location | Promulgated | Amended |
|---|---|---|---|
| "Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984" | 40 CFR Part 60 Subpart Kb | 2003 | -- |
| "Asphalt Processing and Asphalt Roofing Manufacturing: National Emission Standards for Hazardous Air Pollutants for Major Sources" | 40 CFR Part 63 Subpart LLLLL | 2003 | 2005 |
| "Printing, Coating, and Dyeing of Fabrics and Other Textiles: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart OOOO | 2003 | 2004 |
| "Integrated Iron and Steel Manufacturing: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart FFFFF | 2003 | 2006 |
| "Surface Coating of Metal Cans: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart KKKK | 2003 | 2006 |
| "Surface Coating of Metal Furniture: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart RRRR | 2003 | -- |
| "Miscellaneous Organic Chemical Manufacturing: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart FFFF | 2003 | 2006 |
| "Municipal Solid Waste Landfills: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart AAAA | 2003 | -- |
| "Semiconductor Manufacturing: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart BBBBB | 2003 | 2008 |
| "Surface Coating of Wood Building Products: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart QQQQ | 2003 | 2019 |
| "Final Rule for Control of Emissions From New Marine Compression-Ignition Engines at or Above 2.5 Liters Per Cylinder" | 40 CFR Parts 9 & 94 | 2003 | -- |
| "Surface Coating of Automobiles and Light-Duty Trucks: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart IIII | 2004 | 2006, 2007 |
| "Industrial, Commercial, and Institutional Boilers and Process Heaters: National Emission Standards for Hazardous Air Pollutants for Major Sources" | 40 CFR Part 63 Subpart DDDDD | 2004 | 2005, 2006, 2011, 2013, 2015 |

| Rule | CFR Location | Promulgated | Amended |
|---|---|---|---|
| "Iron and Steel Foundries: National Emissions Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart EEEEE | 2004 | 2005, 2008 |
| "Organic Liquids Distribution: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart EEEE | 2004 | 2006, 2008 |
| "Surface Coating of Plastic Parts and Products: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart PPPP | 2004 | 2006, 2007 |
| "Plywood and Composite Wood Products Manufacture: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart DDDD | 2004 | 2006, 2007 |
| "National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines" | 40 CFR Part 63 Subpart ZZZZ | 2004 | 2008, 2010, 2013, 2014 |
| "Stationary Combustion Turbines: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart YYYY | 2004 | -- |
| "Final Rule for Control of Emissions From Highway Motorcycles" | 40 CFR Parts 9, 86, 90, 1051 | 2004 | -- |
| "Final Rule for Control of Emissions of Air Pollution From Nonroad Diesel Engines and Fuel" | 40 CFR Parts 9, 69, 80, 86, 94, 1039, 1048, 1051, 1065, 1068 | 2004 | -- |
| "Direct Final Rule for Amendments to the Phase 2 Requirements for Spark-Ignition Nonroad Engines at or Below 19 Kilowatts" | 40 CFR Part 90 | 2004 | -- |
| "Final Rule for Control of Emissions of Hazardous Air Pollutants From Mobile Sources: Default Baseline Revision" | 40 CFR Part 80 | 2005 | -- |
| "Final Rule for Modification of Federal Onboard Diagnostic Regulations for: LD Vehicles, LD Trucks, MD Passenger Vehicles, Complete HD Vehicles and Engines Intended for Use in HD Vehicles Weighing 14,000 Pounds GVWR or Less" | 40 CFR Part 85 | 2005 | -- |
| "Final Rule for Control of Emissions of Air Pollution From New Motor Vehicles: In-Use Testing for Heavy-Duty Diesel Engines and Vehicles" | 40 CFR Part 9 & 86 | 2005 | -- |

| Rule | CFR Location | Promulgated | Amended |
|---|---|---|---|
| "Direct Final Rule for Control of Air Pollution From New Motor Vehicles; Revisions to Motor Vehicle Diesel Fuel Sulfur Transition Provisions; and Technical Amendments to the Highway Diesel, Nonroad Diesel, and Tier 2 Gasoline Programs" | 40 CFR Part 80 | 2005 | -- |
| "Final Rule for Procedures for Testing Highway and Nonroad Engines and Omnibus Technical Amendments" | 40 CFR Parts 85, 86, 89, 90, 91, 92, 94, 1039, 1048, 1051, 1065, 1068 | 2005 | -- |
| "Clean Air Interstate Rule" (CAIR) | 40 CFR Part 52 | 2005 | Vacated and remanded 2008 Stayed 2009 Implemen-tation ceased on December 31, 2014. |
| "New Source Performance Standards for Stationary Compression Ignition Internal Combustion Engines" | 40 CFR Part 60 Subpart IIII | 2006 | 2011 |
| "Final Rule for Emission Durability Procedures for New Light-Duty Vehicles, Light-Duty Trucks and Heavy-Duty Vehicles" | 40 CFR Part 86 | 2006 | -- |
| "Direct Final Rule for Amendments to Regulations for Heavy-Duty Diesel Engines" | 40 CFR Parts 9 & 86 | 2006 | -- |
| "Carbon Black Production Area Sources: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart MMMMMM | 2007 | 2008 |
| "Final Rule for Control of Hazardous Air Pollutants From Mobile Sources" | 40 CFR Parts 59, 80, 85, & 86 | 2007 | -- |
| "New Source Performance Standards for Stationary Spark Ignition Internal Combustion Engines" | 40 CFR Part 60 Subpart JJJJ | 2008 | -- |
| "Gasoline Distribution MACT and GACT: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subparts R, BBBBBB & CCCCCC | 2008 | 2011 |

| Rule | CFR Location | Promulgated | Amended |
|---|---|---|---|
| "Paint Stripping and Miscellaneous Surface Coating Operations: National Emission Standards for Hazardous Air Pollutants for Area Sources" | 40 CFR Part 63 Subpart HHHHHH | 2008 | -- |
| "Final Rule for Control of Emissions From Nonroad Spark-Ignition Engines and Equipment" | 40 CFR Parts 9, 60, 80, 85, 86, 89, 90, 91, 92, 94, 1027, 1033, 1039, 1042, 1045, 1048, 1051, 1054, 1060, 1065, 1068, 1074 | 2008 | -- |
| "Final Rule for Control of Emissions of Air Pollution From Locomotive Engines and Marine Compression-Ignition Engines Less Than 30 Liters per Cylinder" | 40 CFR Parts 9, 85, 86, 89, 92, 94, 1033, 1039, 1042, 1065, 1068 | 2008 | -- |
| "Direct Final Rule for Exhaust Emission Standards for 2012 and Later Model Year Snowmobiles" | 40 CFR Part 1051 | 2008 | -- |
| "Asphalt Processing and Asphalt Roofing Manufacturing: National Emission Standards for Hazardous Air Pollutants for Area Sources" | 40 CFR Part 63 Subpart AAAAAAA | 2009 | 2010 |
| "Chemical Manufacturing Area Sources: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart VVVVVV | 2009 | 2011, 2012 |
| "Paints and Allied Products Manufacturing: National Emission Standards for Hazardous Air Pollutants for Area Sources" | 40 CFR Part 63 Subpart CCCCCCC | 2009 | 2010 |
| "Final Rule for Control of Air Pollution From New Motor Vehicles and New Motor Vehicle Engines; Regulations Requiring Onboard Diagnostic Systems on 2010 and Later Heavy-Duty Engines Used in Highway Applications Over 14,000 Pounds" | 40 CFR Parts 86, 89, 90, 1027, 1033, 1042, 1048, 1054, 1060, 1065, & 1068 | 2009 | -- |
| "Direct Final Rule for Revisions to In-Use Testing for Heavy-Duty Diesel Engines and Vehicles; Emissions Measurement and Instrumentation; Not-to-Exceed Emission Standards; and Technical Amendments for Off-Highway Engines" | 40 CFR Parts 89, 1033, 1039, 1042, 1045, 1054, 1065 | 2010 | -- |
| "Direct Final Rule for Technical Amendments for Marine Spark-Ignition Engines and Vessels" | 40 CFR Part 1060 | 2010 | -- |

| Rule | CFR Location | Promulgated | Amended |
|---|---|---|---|
| "Final Rule for Control of Emissions From New Marine Compression-Ignition Engines at or Above 30 Liters per Cylinder" | 40 CFR Parts 80, 85, 86, 94, 1027, 1033, 1039, 1042, 1043, 1045, 1048, 1051, 1054, 1060, 1065, 1068 | 2010 | -- |
| "Industrial, Commercial, and Institutional Area Source Boilers: National Emission Standards for Hazardous Air Pollutants" | 40 CFR Part 63 Subpart JJJJJJ | 2011 | 2013, 2016 |
| "Final Rule for Clean Alternative Fuel Vehicle and Engine Conversions" | 40 CFR Parts 85 & 86 | 2011 | -- |
| "Cross-State Air Pollution Rule" (CSAPR) | 40 CFR Parts 52 & 97 | 2011 | 2016 |
| "Crude Oil and Natural Gas Production, Transmission and Distribution for Which Construction, Modification, or Reconstruction Commenced after August 23, 2011 and on or before September 18, 2015: New Source Performance Standards" | 40 CFR Part 60 Subpart OOOO | 2012 | 2013, 2014, 2015, 2016 |
| "Direct Final Rule for Heavy-Duty Highway Program: Revisions for Emergency Vehicles" | 40 CFR Parts 85, 86, & 1039 | 2012 | -- |
| "Direct Final Rule for Great Lakes Steamship Repower Incentive Program" | 40 CFR Part 1043 | 2012 | -- |
| "Final Rule for Clean Alternative Fuel Vehicle and Engine Conversions" | 40 CFR Parts 79, 80, 85, 86, 600, 1036, 1037, 1039, 1042, 1048, 1054, 1065, & 1066 | 2014 | -- |
| "Final Rule for Emergency Vehicle Rule - Selective Catalytic Reduction (SCR) Maintenance and Regulatory Flexibility for Nonroad Equipment" | 40 CFR Part 86 & 1039 | 2014 | -- |
| "Petroleum Refinery Sector Risk and Technology Review and New Source Performance Standards" | 40 CFR Part 60 Subparts J & Ja and 40 CFR Part 63 Subparts CC & UUU | 2015 | 2016 |

| Rule | CFR Location | Promulgated | Amended |
|---|---|---|---|
| "Amendments Related to Tier 3 Motor Vehicle Emission and Fuel Standards, Nonroad Engine and Equipment Programs, and MARPOL Annex VI Implementation" | 40 CFR Parts 59, 80, 85, 86, 600, 1037, 1043, 1051, 1054, 1060, 1065, 1066 | 2015 | -- |
| "Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone" (NOx SIP Call) | 40 CFR Parts 51, 72, 75, 95 | 1998 | -- |

## VII. Conclusion

Provisions for the control of VOC in Pulaski County that are contained in Rule 19, Chapter 10 were enacted in response to Pulaski County being designated as nonattainment for the ozone NAAQS in 1978. The requirements adopted into Rule 19, Chapter 10 were meant to apply specifically in nonattainment areas, but remain in place to date, despite Pulaski County's redesignation to attainment status in 1984, and being in attainment of the NAAQS since.

Several factors provide justification for removal of process-specific VOC rules for Pulaski County from the SIP. Pulaski County has remained in attainment of the ozone NAAQS for more than thirty years, even as the ozone NAAQS has become more stringent over time. In addition, VOC emissions in Pulaski County increased between 2002 and 2014, but ozone concentrations in Pulaski County continued to decrease during the same period. EPA modeling results indicate that reductions in VOC emissions are not effective in reducing ozone concentrations in most areas of the United States, including Arkansas, and that much greater benefits are realized through reductions of NO emissions. The vast majority of VOC emissions in Arkansas, including Pulaski County, are biogenic in nature and therefore not subject to control. Information contained in this technical support document demonstrates that no air quality benefit would be gained by retaining VOC regulations specific to Pulaski County, and that their removal from the SIP will not interfere with continued attainment and maintenance of the ozone NAAQS in Pulaski County.