TECHNICAL SUPPORT DOCUMENT FOR CTG RACT AIR QUALITY REGULATIONS FOR THE 2015 OZONE NAAQS STATE IMPLEMENTATION PLAN

Background

On October 26, 2015, the U.S. Environmental Protection Agency (EPA) revised the primary and secondary ozone 8-hour National Ambient Air Quality Standards (NAAQS) from 0.075 parts per million (ppm) to 0.070 ppm. Within two years after setting or revising a NAAQS, EPA must designate areas as meeting (attainment) or not meeting (nonattainment) the standard. EPA's final designations are based on the most recent three years of air quality monitoring data, recommendations from the state, and additional technical information. If an area is not meeting the standard, the state is required to prepare a State Implementation Plan (SIP) that identifies how the area will attain or maintain the NAAQS to comply with the provisions of the Clean Air Act. The SIP includes regulatory and non-regulatory control measures for reaching attainment by a specific deadline.

On June 4, 2018, EPA designated Hydrographic Area (HA) 212 (Las Vegas Valley) a marginal nonattainment area for the 2015 ozone NAAQS effective August 3, 2018 (83 FR 25776), and required the area to attain the standard by August 3, 2021. To achieve attainment by this date, the Department of Environment and Sustainability, Division of Air Quality (DAQ) was required to show that an HA 212 ozone design value based on 2018–2020 air quality data was equal to or less than 0.070 ppm. In 2021, DAQ submitted 17 exceptional event demonstrations to exclude 28 ozone exceedances in 2018 and 2020 that it maintained were caused by impacts from wildfire smoke or stratospheric intrusions and requested that EPA exclude the associated air quality data from the 2018–2020 design value calculation. On July 22, 2022, EPA proposed not to approve those demonstrations and to find that HA 212 failed to meet its attainment date based on a 2018–2020 design value of 0.074 ppm (87 FR 43764). On January 5, 2023, EPA issued a final rule reclassifying HA 212 as a moderate nonattainment area for the 2015 ozone NAAQS (88 FR 775) and requiring the area to achieve attainment by August 3, 2024.

Requirements for Stationary Sources with Existing Air Quality Permit

Sources with an existing stationary source permit will be required to evaluate whether these new regulations are applicable.

If a new regulation applies and the existing stationary source permit includes all the applicable requirements and standards, sources will be required to notify DAQ that they are in compliance with the applicable regulation.

If a new regulation applies and the existing stationary source permit does not include all the applicable requirements, sources will be required to revise their permit in accordance with the requirements in Sections 12.1, 12.4, and 12.5, to include all the applicable requirements and standards. Compliance with the emissions standards, controls, monitoring, recordkeeping, and reporting requirements in the CTG RACT regulation will be satisfied by complying with the stationary source permit until the Control Officer approves or denies the permit revision.

New Air Quality Regulations: Sections 101–105 and 107

DAQ has identified seven volatile organic compound (VOC)-related area source categories that contribute to the formation of ground-level ozone in HA 212. DAQ is proposing seven new rules for Control Techniques Guidelines (CTG) Reasonably Available Control Technology (RACT) as part of its 2015 ozone NAAQS State Implementation Plan:

- Section 101, "VOC Emissions Control for Industrial Adhesive Operations"
- Section 102, "Gasoline Dispensing Facilities"
- Section 103, "VOC Emissions Control for Miscellaneous Metal or Plastic Parts Coating Operations"
- Section 104, "VOC Emissions Control for Industrial Cleaning Solvent Operations"
- Section 105, "VOC Emissions Control for Metal Solvent Degreaser Operations"
- Section 107, "VOC Emissions Control for Cutback Asphalt Manufacturing and Use"

Section 101, "VOC Emissions Control for Industrial Adhesive Operations"

Section 101 implements CTG RACT requirements on any owner or operator of a stationary source with projected maximum emissions of VOC equal to or greater than 3.0 tons per calendar year from industrial adhesive operations located in HA 212 or in a designated nonattainment area classified as moderate or higher ozone nonattainment on or after January 5, 2023. Applicable sources will be required to comply with work practices, compliance obligations, registration, notification, recordkeeping, and reporting requirements, and one of the following emissions standards:

(a) Reduce VOC emissions by at least 85% by weight;

(b) Use VOC-compliant coatings that meet VOC content limits identified in the regulation and use one or more of the listed efficient application methods; or

(c) Use low-VOC industrial adhesives and an emissions control system (ECS) that, in combination, result in a mass VOC per volume that is no greater than the VOC-compliant coatings in (b) and use one or more of the listed efficient application methods.

Any stationary source with projected maximum emissions of VOC of less than 3.0 tons per calendar year in a moderate or higher ozone nonattainment area is required to comply with the work practice requirements for storing, handling, and disposing of industrial adhesive and waste materials. Owners or operators must also comply with recordkeeping and registration requirements.

Section 101 is not applicable to any stationary source using less than 500 gallons of industrial adhesive materials per calendar year in industrial adhesive operations or certain listed activities or is located in a hydrographic area that is in attainment or marginal nonattainment for ozone.

DAQ received a request to add clarifying language to footnote 1 in Table 1, "VOC Content Limits for Adhesives and Adhesive Primers." The proposed clarifying language is, "[1]Limits are mass of VOC per volume of adhesive or adhesive primer, excluding water and exempt compounds, as

applied*, except for low-solid regulated products where the VOC limit is expressed in grams per liter of material as defined in Section 101.7*." The clarifying language was not added to the regulation because the request was received after the public comment period was closed and after the draft regulation was submitted to the BCC for introduction; in addition, the clarifying language does not change DAQ's interpretation of footnote 1.

DAQ Interpretation

Section 101.4(c) includes two exemption scenarios.

If a source is using the materials listed in Sections 101.4(c)(1)–(3) in combination with materials applicable to Section 101, there are no emissions standards, work practices, or compliance obligations associated with the listed materials. Only registration, notification, recordkeeping, and reporting requirements apply to the listed materials.

If the source is only using the materials listed in Sections 101.4(c)(1)–(3), there are no emissions standards, work practices, compliance obligations, registration, notification or reporting requirements. Only recordkeeping requirements apply.

Section 102, "Gasoline Dispensing Facilities"

Section 102 implements CTG RACT requirements on any owner or operator of a gasoline dispensing facility (GDF) located in HA 212 or in a designated nonattainment area classified as moderate or higher ozone nonattainment on or after January 5, 2023. While Section 102 provides some exemptions, it will likely affect a majority of the existing GDFs, since the threshold for many requirements is a combined throughput equal to or greater than 120,000 gallons in any consecutive 12-month period, significantly lower than the previous minor source permitting threshold of 5 tons of VOC per year in Section 12.1.1(e) (approximately 693,000 gallons). The requirements include minor source permitting, work practices, submerged filling and vapor recovery control standards, cargo tank emissions control standards, testing, monitoring, and recordkeeping.

GDFs with a total combined gasoline throughput of less than 120,000 gallons during any consecutive 12-month period will be exempt from minor source permitting, performance testing, and reporting requirements. An existing GDF with this throughput is required to submit a registration application within 180 days of the effective date of the regulation. A new source with this throughput must submit a registration application no later than 180 days after commencing operations.

Section 102 is not applicable to any stationary source located in an hydrographic area that is in attainment or marginal nonattainment for ozone.

California Air Resources Board (CARB)-certified enhanced vapor recovery (EVR) control standards in Section 102.7(c)(5) will only apply to owners and operators upon receiving written notice from the Control Officer after a finding that HA 212 failed to attain the 2015 NAAQS for ozone by the area's attainment date and a finding that additional VOC emission reductions from GDF operations in Clark County will help HA 212 achieve and maintain attainment.

Minor source GDFs in HA 212 have been required to obtain a minor source permit or authority to operate under the applicable general permit when their potential to emit was equal to or greater than 5 tons of VOC (approximately 693,000 gallons of gasoline) in a calendar year. Section 102

requires all GDFs that dispense equal to or greater than 120,000 gallons of gasoline in any consecutive 12-month period to obtain a minor source permit to operate. GDFs that dispense less than 120,000 gallons of gasoline annually must now register. DAQ estimates the requirements in Section 102 will achieve emissions reductions at least equivalent to what Section 52 could have achieved in 1982.

EPA and Public Comments

DAQ received one public comment and multiple EPA comments regarding Section 102, which are discussed in the comment response section of this document.

DAQ Interpretation

Sections 102.7(a)(5) and (b) establish when parts at existing GDFs must be replaced with CARB-certified EVR parts if the contingency measure is triggered. Per Section 102.7(a)(5), GDFs with a combined throughput of gasoline equal to or greater than 120,000 gallons in any consecutive 12-month period shall replace existing parts with CARB-certified EVR parts upon modifying, replacing, or newly installing any affected facility. The definition of affected facility goes to the level of components. If a GDF is replacing a component after the contingency measure is triggered, it must be a CARB-certified EVR component. Multiple components shall be handled similarly. Existing GDFs will be required to retrofit all components by two years after the contingency measure is triggered per Section 102.7(b).

Section 103, "VOC Emissions Control for Miscellaneous Metal or Plastic Parts Coating Operations"

Section 103 implements CTG RACT requirements on any owner or operator of a stationary source with projected maximum emissions of VOC equal to or greater than 3.0 tons per calendar year from miscellaneous metal or plastic parts coating operations located in HA 212 or in a designated nonattainment area classified as moderate or higher ozone nonattainment on or after January 5, 2023. Applicable sources will be required to comply with work practices, compliance obligations, registration, notification, recordkeeping, and reporting requirements, and one of the following emissions standards:

(a) Reduce VOC emissions from the coating operations using an ECS that reduces VOC emissions by at least 90% by weight;

(b) Use VOC-compliant coatings that, as applied, meet VOC content limits for the applicable coating category and use one or more of the listed efficient application methods; or

(c) Use coatings that, as applied, have a VOC content equal to or less than the mass VOC per volume of coating solids limit for the applicable coating category by using either a combination of low VOC-containing material and an ECS and use one or more of the listed efficient application methods.

Any stationary source with projected maximum emissions of VOC of less than 3.0 tons per calendar year in a moderate or higher ozone nonattainment area is required to comply with the work practice requirements for storing, handling, and disposing of coatings and waste materials. Owners or operators must also comply with recordkeeping and registration requirements.

Section 103 is not applicable to any stationary source using less than 500 gallons of coatings per calendar year in miscellaneous metal or plastic parts coating operations or certain listed activities or is located in a hydrographic area that is in attainment or marginal nonattainment for ozone.

Section 104, "VOC Emissions Control for Industrial Cleaning Solvent Operations"

Section 104 implements CTG RACT requirements on any owner or operator of a stationary source with projected maximum emissions of VOC equal to or greater than 3.0 tons per calendar year from industrial cleaning solvent operations located in HA 212 or in a designated nonattainment area classified as moderate or higher ozone nonattainment on or after January 5, 2023. Applicable sources will be required to comply with work practices, compliance obligations, registration, notification, recordkeeping, and reporting requirements, and one of the following emissions standards:

(a) Use industrial cleaning solvents with a VOC content equal to or less than 0.42 lb/gal (50 g/L), as applied, excluding water and exempt compounds;

(b) Use industrial cleaning solvents with a maximum composite vapor pressure of 8.0 mm Hg measured at 68°F (20°C); or

(c) Reduce VOC emissions by at least 85% by weight using an ECS, or reduce them by an overall percent efficiency equivalent to 85% by utilizing a given formula that relates VOC contents.

Any stationary source with projected maximum emissions of VOC of less than 3.0 tons per calendar year in a moderate or higher ozone nonattainment area is required to comply with the work practice requirements for storing, handling, and disposing of industrial cleaning solvent and waste materials. Owners or operators must also comply with recordkeeping and registration requirements.

Section 104 is not applicable to any stationary source using less than 500 gallons of industrial cleaning solvent per calendar year in industrial cleaning solvent operations or certain listed activities, such as janitorial services and medical devices, or is located in a hydrographic area that is in attainment or marginal nonattainment for ozone.

Section 105, "VOC Emissions Control for Metal Solvent Degreasing Operations"

Section 105 implements CTG RACT requirements on any owner or operator of a stationary source with projected maximum emissions of VOC equal to or greater than 3.0 tons per calendar year from cold cleaners, open top vapor degreasers, and conveyorized degreasers located in HA 212 or in a designated nonattainment area classified as moderate or higher ozone nonattainment on or after January 5, 2023.

Applicable sources will be required to comply with equipment and operation specifications, emission control requirements, and work practices applicable to the type of degreaser operated.

Any stationary source with projected maximum emissions of VOC of less than 3.0 tons per calendar year in a moderate or higher ozone nonattainment area is required to comply with the applicable work practices, recordkeeping, and registration requirements.

Section 105 is not applicable to any stationary source using less than 500 gallons of cleaning solvent per calendar year in metal solvent degreasing operations, using only vapor-phase solder reflow units, having a vapor-air interface area of 1.0 ft^2 (0.09 m^2) or less, with a maximum solvent capacity of 1.0 gal (3.8 L) or less, or located in a hydrographic area that is in attainment or marginal nonattainment for ozone.

Section 107, "VOC Emissions Control for Cutback Asphalt Manufacturing and Use"

Section 107 implements CTG RACT requirements on any owner or operator of a stationary source with projected maximum emissions of VOC equal to or greater than 3.0 tons per calendar year from all affected worksites in Clark County.

Applicable sources and mobile operations will be required to comply with registration, notification, recordkeeping, and reporting requirements and must ensure the VOC content of the cutback asphalt is equal to or less than 0.5% by volume of oil distillate from a 200 ml (6.8 oz) sample at 500°F (260°C) using ASTM methods.

Cutback asphalt operations will not be allowed to manufacture, sell, mix, store, or use rapid curing cutback asphalt for paving purposes in Clark County.

Cutback asphalt operations engaging in certain listed activities, such as manufacturing or selling cutback asphalt in Clark County for shipment and use outside of Clark County, conducting dust suppression operations, or paving an area smaller than 5,000 ft^2, are exempt from Section 107 except for a notification requirement.

EPA recommended VOC content limits on asphalt ranging from 3–12% depending on the application; if states imposed a blanket VOC content limitation, then a range of 5–7% would be acceptable. The relevant "Model Rule" written by the Ozone Transport Commission,, provided by EPA Region 9, indicated that a VOC emissions limitation of equal to or less than 3.0% has typically been approvable as CTG RACT. Upon reviewing recently submitted ozone rules from air districts in California and Arizona, DAQ found that EPA Region 9 has approved VOC emissions limits equal to or less than 0.5% by volume of oil distillates and a prohibition on the use of rapid cure cutback asphalt, suggesting that Section 107 as proposed is at least as stringent as EPA's CTG RACT in practice.

The existing SIP-approved Section 60.4 of the AQRs prohibits use of cutback asphalt in the Las Vegas Valley (as the boundary existed in 1984) except in limited circumstances. EPA approved this regulation for inclusion in the Nevada SIP in 1984, and it is likely that Clark County intended to mirror EPA's CTG RACT recommendation at that time. The presumptive RACT emissions control is the substitution of emulsified asphalt for cutback asphalt. EPA estimated this RACT would lead to nearly 100% control of asphalt emissions.

In 1978 and 1979, shortly after EPA issued the CTG RACT document, it issued three memos to clarify RACT requirements for the asphalt industry. None are posted on EPA's CTG website, so Clark County may not have known about them when it promulgated its asphalt rule. The memos explained that a total ban on cutback asphalt use is technically infeasible and that use of cutback asphalt should be permissible for certain applications. As currently written, Clark County's asphalt rule is not technically feasible and needs revising.

Section 107 applies throughout Clark County. There are several asphalt operations in the neighboring hydrographic areas, e.g., the Apex and Eldorado valleys. VOC emissions generated

from these asphalt operations will continue to flow into the nonattainment area if those emissions are not restricted along with those in HA 212. Limiting Section 107 requirements to just HA 212 asphalt operations would allow cutback asphalt manufactured in surrounding HAs to be trucked into HA 212, or someone could purchase the product from an asphalt operation outside HA 212 and use it within HA 212. The asphalt industry is transient, with much of the asphalt generally produced at a central plant and shipped to worksites as needed.

General Requirements

As part of the CTG RACT process, DAQ undertook an extensive effort to identify potentially affected businesses. CTG RACT establishes the applicability of a rule and provides appropriate definitions, exemptions for the smallest emitters, emission standards, work practice requirements, permitting or registration requirements, notification, recordkeeping and reporting requirements, and applicable compliance dates.

Permitting

A stationary source, regulated by a minor source permit, an authority to construct permit, or a Part 70 operating permit, that is subject to a CTG RACT regulation shall apply for a permit revision to incorporate applicable CTG RACT requirements in accordance with the requirements in Sections 12.1, 12.4, and 12.5.

If a source holds a Part 70 permit, it may elect to revise its Part 70 permit (issued under Section 12.5) to incorporate the VOC CTG RACT requirements rather than obtain an authority to construct permit (Section 12.4) separately, then revise the Part 70 permit at a later date.

Using Projected Maximum Emissions

As a general policy, EPA allows state and local air pollution control agencies to exclude emissions sources emitting less than approximately 15 lb/day, or up to 3 tons of VOC a year, from CTG RACT requirements. EPA has allowed states to interpret this general applicability threshold on either an actual emission or potential to emit (PTE) basis, and has approved both types of rules for incorporation into SIPs.

A PTE applicability threshold is generally considered more stringent than actual emissions, and it has the advantage of creating greater stability in CTG RACT applicability; once a source is subject to the rule, it remains subject unless it undertakes an emissions reduction project. With an actuals-based approach, a source could move in and out of applicability from year to year, depending on its emissions over the previous year. To minimize disruptions in applicability, many states that include an actuals-based applicability threshold also adopt a once-in-always-in applicability policy: once a stationary source emits above the threshold, that source is subject to the CTG RACT requirement regardless of future emissions.

DAQ prefers the stability of the PTE applicability approach, but recognizes that often sources never emit close to an emission unit's PTE. For these sources, applying the CTG RACT requirements raises concerns over the cost-effectiveness of emissions controls. DAQ favors an actual-based approach from a cost-effectiveness perspective, but disfavors the increased enforcement burden that accompanies the yearly change in affected sources and the discouragement of pollution prevention innovations that accompanies a once-in-always-in approach.

To reconcile the advantages and disadvantages of the actual- and PTE-based approaches, DAQ opted to base applicability on "projected maximum emissions." Under this approach, potentially affected sources must estimate the highest level at which an operation will emit VOC in a future year. To develop this estimate, DAQ recommends that stationary sources look at previous demand and market projections to reasonably estimate what the stationary source will emit in the foreseeable future.

This value could approximate PTE for sources operating at or near capacity, but will likely be lower than PTE for sources operating below maximum capacity. DAQ believes that using projected maximum emissions will assure that CTG RACT requirements are applied cost-effectively to sources anticipating emissions that exceed EPA's general applicability threshold.

DAQ believes this approach maximizes incentives to reduce emissions. It also assures that CTG RACT is implemented in a cost-effective manner while maintaining a system as stringent in practice as a purely actuals- or PTE-based approach.

Work Practice Requirements

DAQ developed a standard set of work practice requirements for handling VOC-containing material based on recommendations in various CTGs, making minor adjustments to basic requirements as appropriate for the specific application. DAQ included operator training and periodic inspection requirements to assure compliance.

In most cases, EPA's CTG RACT presumption includes only a recommendation for a level of emissions reductions. The CTGs do not include requirements for monitoring, recordkeeping, or reporting to assure compliance with the emissions reduction recommendations; state and local air pollution control agencies add these requirements to assure enforceability and enhance rule effectiveness. With respect to work practice requirements, DAQ believes that operator training combined with periodic inspections is the most reasonable, cost-effective means for assuring that stationary sources comply with work practice requirements. Should a stationary source already be subject to these requirements—for example, under Occupational Safety and Health Agency (OSHA) rules—it is not DAQ's intent to create a duplicative requirement, so stationary sources will be considered compliant by showing compliance with the OSHA standard.

Recordkeeping

All the new rules require an owner or operator to generate and maintain documentation to demonstrate compliance with the rule: for example, owners or operators may be required to calculate and document (e.g., in a log report) monthly or annual use of a material and translate that use into ton-per-year of VOC emissions. Owners or operators may acquire and maintain vendor-provided data and calculations to satisfy these requirements.

Exemptions

Sections 101, 103, 104, and 105 include an exemption for sources using less than 500 gallons of applicable material; 500 gallons per year of material with a conservative value of 10 lb of VOC per gallon of material equals 2.5 tons per year of VOC emissions, well below the trigger of 3 tons per year. Also, a throughput-based exemption threshold simplifies the determination analysis required by small businesses.

Emissions Standards

(a) DAQ requires owners and operators to limit or reduce VOC emitting operations by using VOC compliant coatings or solvents that meet emissions standards. In many cases, VOC content limits are provided for solvents and coatings, as applied, excluding water and exempt compounds. Operators can also use solvents with a maximum composite vapor pressure measured at a standard temperature. The use of efficient application methods can also reduce VOC emissions. operators may be required to employ a combination of these emissions reducing practices where practical to further reduce emissions to comply with the emissions standard.

(b) Operators may be required to reduce VOC emissions from adhesives, coatings, and/or solvent operations using an emissions capture and control system (ECS) to meet the CTG RACT emissions standards. DAQ established a control efficiency standard of 85% and 90% for many of the CTG RACT rules based on EPA's CTG RACT presumptions.

Compliance Obligations

When the compliance obligation section of rules includes an equation for calculating compliance with VOC content requirements, these equations were taken from general equations used by the South Coast Air Quality Management District in their air quality rules. See, for example, Rule 433.1.

Compliance Dates

DAQ proposes different compliance dates for new and existing sources. New sources must comply upon commencing normal operations. For existing sources, DAQ generally provides six months to comply from the effective date of the regulation. If a source is using low VOC material to comply, the regulations provide up to one year for an owner or operator to use material in its existing inventory, but it may not purchase new, non-compliant material after the applicable compliance date in the regulation. For existing sources that must design, purchase, and install air pollution control equipment, the regulations allow up to 18 months to comply.

DAQ believes that these are reasonable compliance dates that should be achievable for most affected sources, however, DAQ also recognizes that there may be special circumstances (supplier shortages, worker shortages, etc.) that make meeting these compliance dates infeasible. When an existing stationary source documents and explains why it cannot achieve compliance by the applicable date specified in the regulation and commits to an alternative compliance date that achieves compliance as expeditiously as practicable, the compliance date may be extended up to three years from the effective date of the regulation through application and issuance of a revised stationary source permit. DAQ expects such requests to be rare.

END

EPA Comments and DAQ Responses

EPA Region 9 provided comments on the draft Air Quality Regulations on February 12, 2024. EPA comments and DAQ responses are as follows.

Section 102: Gasoline Dispensing Facilities

COMMENT 1: Section 102.2(b) exempts the loading of aviation gasoline at airports from the rule's gasoline transfer requirements. As this category is not exempted from other analogous California district and Maricopa County (AZ) rules or the applicable CTGs, this exemption should either be removed, or the Department should demonstrate why it is necessary and how it will not interfere with reasonable further progress (RFP) or other requirements of the Clean Air Act.

RESPONSE: DAQ removed the language exempting the loading of aviation gasoline into storage tanks at airports and the subsequent transfers from Section 102.2.

COMMENT 2: South Coast Rule 461 requires an operation and maintenance program for GDF owners and operators. We suggest requiring an operation and maintenance manual for GDF owners to have on site that details the installation, maintenance, and operation of the vapor recovery equipment on sight in Section 102.5.

RESPONSE: No changes are being proposed. There is no example or demonstration that having an installation, maintenance, and operations manual is required by other rules or that such a requirement will impact emissions expected from and/or enforceability of the provision. DAQ does not require an operation and maintenance manual for GDF owners and operators. DAQ Small Business Assistance provides free, quarterly virtual training to any GDF owners and operators. DAQ also provides this same information, with handouts, to businesses that choose to have on-site training for their store managers and operators. DAQ compliance inspectors encourage owners and operators to attend these training sessions during compliance inspections.

COMMENT 3: Section 102.7(c)(5) includes language requiring that a gasoline storage tank "conforms to CARB EVR certification and executive orders […]" which differs from language contained in comparable California air district rules which typically specify that "a Phase I vapor recovery system and associated components are installed, maintained, and operated" in accordance with the most recent applicable CARB certification procedures, CARB Executive Orders, and the manufacturer's Installation, Operation, and Maintenance manual.[1] We recommend revising this language to more clearly state that that GDF owners are required to install a CARB EVR system in order to ensure the enforceability of this provision.

RESPONSE: The definition of "CARB-certified EVR" in Section 102.3 has been revised to clarify the appropriate certification by CARB. "CARB-certified EVR" means a Phase I vapor recovery system, equipment, or any component that has been certified by CARB as EVR pursuant to Section 41954 of the California Health and Safety Code.

COMMENT 4: Similarly, when establishing the requirement to use CARB certified EVRs, Section 102 does not explicitly specify the control efficiency. CTG No. EPA-450/R-75-102 - Design Criteria for Stage I Vapor Control Systems – Gasoline Service Systems requires a 95% reduction in transfer losses. By comparison, similar California air district rules specify control efficiency, such

[1] South Coast AQMD Rule 461, San Diego APCD Rule 61.2 and 61.3.1, San Joaquin Valley APCD Rule 4621.

as requiring their underground storage tanks to be equipped with CARB Certified EVRs with 98% volumetric efficiency.[2] We recommend including language indicating 98% volumetric efficiency for underground storage tanks and/or 95% volumetric efficiency for above ground storage tanks in Section 102 language to ensure the stringency and enforceability of this provision.

RESPONSE: The reference to a 95% reduction in transfer losses in CTG No. 450/R-75-102 "Design Criteria for Stage I Vapor Control Systems" is not apparent, as indicated by the comment. A 90% reduction is specified in 40 CFR Part 63, Subpart CCCCCC for systems meeting criteria of 63.11118 prior to January 10, 2008, otherwise systems are required to meet a reduction of 95%. No distinction between underground and aboveground storage tanks relating to percent reduction was apparent in said CTG or CFR. Provision language requiring volumetric efficiencies of 98% for underground storage tanks and 95% for aboveground storage tanks was added to Section 102 for CARB-certified EVR systems. Section 102.7(c)(5) is revised to read: "By the compliance dates specified in this section, an owner or operator with a total combined throughput of gasoline equal to or greater than 120,000 gallons during any consecutive 12-month period shall not load, or permit the loading of, gasoline into a stationary storage tank, above or below ground, unless the tank is equipped with a vapor balance system that: (5) Conforms to CARB-certified EVR by achieving a minimum vapor control volumetric efficiency of 98% for underground storage tanks and 95% for aboveground storage tanks for all affected facilities..."

COMMENT 5: Section 102.8 does not discuss prohibition of tank purging, which is a requirement established in several CA air district rules, as well as Maricopa County Rule 351. We suggest including this prohibition.

RESPONSE: DAQ added the definition of degassing to Section 102.3 and the prohibition of tank purging to Section 102.5(d). "Degassing" means the process of removing, cleaning, or scouring out gasoline vapors from all or a portion of a gasoline storage tank by active or passive means and emitting the vapors into the atmosphere. The prohibition for degassing is found in Section 102.5(d):" An owner or operator shall not allow degassing of gasoline vapors from any gasoline storage tank at the GDF unless VOC emissions are controlled by a device that has been approved in advance by the Control Officer to be at least 90% efficient by weight."

COMMENT 6: Section 102.8 lacks an explicit requirement for cargo tank trucks to be operated during transfer in a liquid-leak-free manner. This is an explicit requirement contained in analogous gasoline loading regulations, such as Maricopa County Rule 353, as well as CARB cargo tank certification requirements in CARB Certification Procedure 204 (CP-204). We recommend including this requirement in Section 102.8 to ensure that Section 102 is sufficiently stringent to implement RACT.

RESPONSE: DAQ added the definition of "leak-free" from Maricopa Rule 353, Definition 208 to Section 102.3 and added leak-free provisions to Section 102. The definition for leak-free is "a condition in which there is no liquid gasoline escape or seepage of more than 3 drops per minute from gasoline storage, handling, or ancillary equipment, including, but not limited to, seepage and escapes from aboveground fittings. This does not include any excess gasoline drainage due to the disconnecting or connecting of either a gasoline loading hose from a gasoline fill line or a vapor recovery hose from a vapor line." Leak-free requirements are included in Section 102.7(c)(1): "By the compliance dates specified in this section, an owner

[2] San Joaquin Valley APCD Rule 4621, South Coast AQMD Rule 461, San Diego APCD 61.3.1.

or operator with a total combined throughput of gasoline equal to or greater than 120,000 gallons during any consecutive 12-month period shall not load, or permit the loading of, gasoline into a stationary storage tank, above or below ground, unless the tank is equipped with a vapor balance system that: (1) Is installed, maintained, and operated according to certifications specified by the manufacturer, and is maintained to be leak-free, vapor-tight, and in proper working order;" Section 102.8(a)(5): "No person shall allow the unloading of gasoline into a storage tank that is subject to the control standards of Section 102 unless: (5) All dry breaks are leak-free;" and Section 102.8(b): "An owner or operator shall ensure that gasoline storage tanks are filled from vapor-tight gasoline cargo tanks that are operated during transfer in a liquid leak-free manner and carry current documentation that the cargo tank has annually met the specifications of 40 CFR Part 60, Appendix A-8, "Test Methods 26 through 30B: Method 27–Determination of Vapor Tightness of Gasoline Delivery Tank Using Pressure Vacuum Test."

COMMENT 7: Section 102.8 and Section 51 establish emission control standards for gasoline cargo tanks, but do not contain sufficient performance testing or monitoring requirements when compared to cargo tank regulations established in other states and air districts, as well as with the recommendations contained in the CTG for Control of Volatile Organic Emissions from Tank Truck Gasoline Loading Terminals (EPA-450/2-77-026). Both Maricopa County Rule 352 and CARB CP-204 require cargo tank trucks used to transport gasoline to a gas station to obtain annual certification, which consists of an annual performance test as well as other procedures for continuous leak and vapor tightness compliance. We recommend revisions to establish more extensive certification, performance testing, and registration requirements for cargo tank trucks to ensure that County rules are sufficiently stringent to implement RACT for this CTG.

RESPONSE: Section 102 does not, nor is intended to, regulate emissions from tank trucks at loading terminals. Section 102 regulates emissions from tank truck off-loading activities at GDFs.

COMMENT 8: The only performance test in Section 102 is for vapor balance systems every 3 years. When implementing CARB Certified EVR, we consider it crucial to have continuous compliance measures in place to determine if the EVR is operating at a certain removal efficiency. Comparable California district rules[3] require annual compliance inspections for the EVR. We recommend performance testing be done annually instead of every 3 years to ensure the enforceability of this provision.

RESPONSE: Annual vapor balance system testing imposes a significant burden on the owner or operator and regulatory agency. CARB-certified EVR systems are proposed as a contingency measure that must be implemented in short order after a finding of failure to attain the standard or reasonable further progress (RFP). DAQ estimates a three-fold increase in cost and the logistics of testing within a relatively short implementation period will strain the industry unproportionately compared to its benefits.

COMMENT 9: Section 0 of Clark County Rules defines "vapor tightness" as a reading less than 10,000 ppm. This determination can only be made with a calibrated hydrocarbon detection instrument, using EPA Method 21. In section 102.7(c) and 102.8(a)(3), certain vapor components are required to be vapor tight. We recommend that continuous leak compliance requirements that

[3] Mojave Desert AQMD Rule 461 Section(4)(a)(ii) , Bay Area AQMD Regulation 8 Rule 7 Section 301.13, and South Coast AQMD Rule 461 Section (d)(1)(B).

include testing for vapor tightness of the enumerated components is added to ensure the enforceability of the rule.

RESPONSE: Provisions are added to Section 102.10 to require routine leak checks using alternative methods to EPA Method 21. The indication of a potential leak using said methods will require an EPA Method 21 to quantify whether the leak meets the standard of vapor tightness. Section 102.10(b) is revised to read, "An owner or operator shall conduct and record inspections on the vapor balance system monthly, using one or more of the following procedures to identify a potential vapor leak. (1) The use of sight, sound, or smell. (2) The use of a soap solution spray in accordance with 40 CFR Part 60, Appendix A-7, "Method 21–Determination of Volatile Organic Compound Leaks," Section 8.3.3, "Alternative Screening Procedure" (adopted August 3, 2017)." Section 102.10(c) is revised to read, "If a potential vapor leak is detected, an owner or operator shall: (1) Make repairs within 15 calendar days; or (2) Perform a Method 21 test to determine the vapor-tight status of a vapor recovery system. (A) If a leak is confirmed: (i) For VOC emissions less than 10,000 ppm, nothing further is required of the owner or operator. (ii) For VOC emissions equal to or greater than 10,000 ppm, the owner or operator must complete repairs within 15 calendar days."

COMMENT 10: When implementing CARB Certified EVR requirements for vapor balance systems, we recommend including a requirement that if there are any alterations (replacement of parts, major maintenance) done to the vapor balance system that it gets recertified.

RESPONSE: The suggestion to "recertify" after alterations is unclear. Section 102 does not require a certification process after the installation of a CARB-certified EVR system, other than the necessary monitoring requirements and system testing. Section 102 already requires a new initial test when seals are broken, parts are replaced, or the vapor recovery system is otherwise compromised in any way.

Section 103: Miscellaneous Metal or Plastic Parts Coating Operations

COMMENT: The definitions for extreme high gloss and high gloss are defined in terms of % reflectance on a 60-degree meter tested by ASTM method D523-08. Because the ASTM test method describes the output reading in terms of "gloss units" and not percentage, we suggest revising these definitions to refer to either "gloss units" or "units."

RESPONSE: DAQ agrees with EPA's recommendation. The definition of "high gloss" is revised as follows: "'High gloss' means a coating that achieves at least 85 gloss units on a 60° meter when tested by ASTM Method D-523-08." The term "% reflectance" is removed from the definition.

Section 104: Industrial Cleaning Solvents

COMMENT: Section 104.4(a) establishes an exemption "when VOC emissions for industrial cleaning solvent operations are controlled by RACT emissions standard(s) under another section of the AQRs." We suggest including additional language clarifying that these sections of the AQRs are approved into the state implementation plan.

RESPONSE: DAQ added "SIP-approved" to Section 104.4(a), "Sections 104.5–104.8 (related to emissions standards, work practice requirements, compliance obligations, and registration requirements) and Sections 104.9.1(a), 104.9.2, and 104.9.3 (related to testing notification, recordkeeping, and reporting requirements) do not apply when VOC emissions from the

industrial cleaning solvent operations are controlled by RACT emissions standard(s) at least as stringent as Section 104 under another applicable SIP-approved section of the AQRs."

Sections 101, 103, 104, and 105 have similar exemptions, so all the sections were updated accordingly.

Section 105: Metal Solvent Degreaser Operations

COMMENT: Paragraph 105.5 (a)(2) is a provision for Cold Cleaner Equipment and Operation Specifications. The paragraph contains language that indicates that if a cold cleaner cannot be fitted with an internal recycling facility, then higher volatility solvents do not need to comply with that portion of the rule. We recommend mirroring the language in the CTG for Control of Volatile Organic Emissions from Solvent Metal Cleaning (EPA-450/2-77-022), Table 1 and add a condition where if the internal recycling facility cannot be fitted, an external facility shall be used.

RESPONSE: Section 105.5(a)(2)(B) has been added to address EPA's concerns. It states: "If the internal recycling facility cannot be fitted, an external facility shall be used."

COMMENT: Paragraph 105.6 (Emissions Standards for Open Top Vapor Degreasers) contains operating requirements that follow the recommendations from the solvent metal cleaning CTG. The rule is missing a certain suggestion from Section 2.2.2.2 of the CTG for open top degreasers. We recommend adding a work practice requirement that vapor level should not drop more than 4 inches when the workload enters the vapor zone.

RESPONSE: DAQ considers the requirements in Section 105.6 are adequate to comply with the CTG requirements for Open Top Vapor Degreasers.

Section 107: Cutback Asphalt Manufacturing and Use

COMMENT 1: Section 107.4 establishes an emission standard for cutback asphalt of 3.0% VOC or less by volume. While this would satisfy the requirements of the relevant control techniques guidance (CTG) document, this is less stringent than comparable rules from several other states and districts, which generally establish limits of 0.5% VOC by volume for cutback asphalt, 3% by volume for emulsified asphalt, and prohibit the use of rapid cure cutback asphalt.4 We suggest that Clark County DES consider revising Section 107 to establish emission standards that align with these other states and districts.

RESPONSE: DAQ agrees that 3.0% VOC has not been updated in the authorized CTG guidelines EPA provided for agencies to use. Upon further examination, DAQ noted other agencies in comparable situations and agree that changing the emissions standard for cutback asphalt to 0.5% VOC is appropriate. Section 107.4(a) is revised accordingly, "An owner or operator of cutback asphalt operations shall not manufacture, sell, mix, store, or use cutback asphalt for the paving, construction, or maintenance of parking lots, driveways, streets, or highways unless the cutback asphalt contains 0.5% VOC or less by volume (equivalent to 6.0 ml (0.2 oz) of oil distillate from a 200 ml (6.8 oz) sample at 500°F (260°C)), as verified using ASTM Method D402, "Standard Test Method For Distillation of Cutback

[4] Maricopa County AQD Rule 340, Imperial County APCD Rule 426, San Diego County APCD Rule 67.7, Mojave Desert AQMD Rule 1103

Asphaltic Products"; or AASHTO T78, "Standard Method of Test for Cutback Asphaltic Products," all incorporated herein by reference."

COMMENT 2: Section 107.1 indicates that it regulates the use of emulsified asphalt as a contingency measure but does not appear to include corresponding language to this effect in the body of the regulation. Please provide additional information clarifying whether emulsified asphalt standards will be adopted, either as a contingency measure or for RACT purposes.

RESPONSE: DAQ removed language regarding emulsified asphalt, including its definition in Section 107.3, from Section 107. DAQ does not intend to regulate emulsified asphalt as part of Section 107.

END

Comments Received During Public Comment Period (1/23/2024 to 2/6/2024) and DAQ Response

Comment Received: 2/5/2024
Commentor: Ted Tiberi
ttiberi@aridtech.com
Phone: 630-681-8500

My comments are in conjunction with correspondence previously provided to Clark County Division of Air Quality (Kevin MacDonald, Ted Lendis, Araceli Pruett, and Alejandro Nunez) on 12 April 2023 and 27 April 2023. For Section 102.7, I suggest adding (e) Pressure Profile Metrics; tank pressure should be less than 1.5 iwc for at least 95% of the time on a 7-day interval, and tank pressure should be less than 0.5 iwc for at least 25% of the time on a 30-day interval. If these pressure profiles are not met, then the system must use add-on vapor processing equipment. Also add (f) Use TP201.2F to determine fugitive emission factor in lb HC/1,000 gal of fuel dispensed, if this value exceeds 0.19 lb/1,000 gal, then the system must use add-on vapor processing equipment. *[For Section]* 102.10 Monitoring, add (j) Pressure integrity vapor leakage, if the leak rate is found to be 2x the threshold rate as tabulated by the procedure in 102.7 (G), then root cause of the leaks must be identified and repaired until the leak rate falls below the 2x threshold. The 102.7 changes proposed simply codify traditional "Stage I" vapor recovery techniques which have been in use throughout the USA for decades. Clark County has overlooked the significant source of vapor emissions from fugitive and vent emissions, where the impact of benzene emissions represents a serious health impact to receptors in close proximity to fuel station vent lines. The vent and fugitive emissions are both a function of storage tank pressure, and the measuring and monitoring of the storage tank pressure values represent an easy to obtain metric for quantifying and subsequently mitigating such fuel storage tank emissions with add-on vapor processors. Fundamentally, storage tanks emit vapors with or without Stage II systems on the "front-end" and vapors are also emitted even with the use of Stage I vapor balancing systems during bulk tanker fuel deliveries. Our company has monitored the magnitude of vapor emissions from gasoline dispensing facilities operating within Clark County, Nevada. We are pleased to share this data with the Regulatory Personnel to aid in your rulemaking.

DAQ Summary of Comments and Responses

Proposed AQR 102
Response provided by: Ted Lendis, DAQ Planning Manager

1a) SUMMARY OF COMMENT(S): The commenter suggests including additional limitations on internal pressure of gasoline storage tanks. The commenter suggests that Section 102.7, “Gasoline Storage Tanks Vapor Recovery Control Standards,” should include a pressure limit of 1.5” water column (wc) for at least 95% of a 7-day period and 0.5” wc for at least 25% of a 30-day period. The commenter suggests that failure to meet said pressure limits on the part of the operator should result in additional add-on emissions control requirements. Also, the commenter suggests including CARB test procedure TP201.2F, “Pressure-Related Fugitive Emissions,” in Section 102.7 as required testing to establish the source’s rate of emissions from storage tanks. If results from this testing exceed 0.19 lb/1,000 gallons dispensed, the commenter suggests requiring add-on emissions controls.

RESPONSE: The pressure limits and corresponding emissions control requirements proposed by the commenter are more stringent than the requirements of 40 CFR Part 63, Subpart CCCCCC, “National Emission Standard for Hazardous Air Pollutants for Source

Category: Gasoline Dispensing Facilities," and would likely achieve a greater degree of emissions reductions than those proposed by DAQ. Section 102 is intended to reconcile the separate requirements of the regulations. Section 52 will be repealed and replaced with Section 102 in the Nevada ozone SIP, which will include a comprehensive set of all applicable requirements. Section 102 is not intended to strengthen emission controls more than the existing requirements, except to include CARB-certified EVR as a contingency measure (i.e., additional control measure) required by the Clean Air Act (Act) if the nonattainment area fails to demonstrate compliance with the 2015 NAAQS for ozone by the attainment deadline. Additionally, Section 102 implements all CTG RACT standards, which is a requirement of the Act when sources matching any of the predetermined categories are operating within the nonattainment area. DAQ must implement a 15% reduction of VOC emissions compared to 2017 baseline emissions to meet the Act's requirements of Rate-of-Progress (ROP), which is being achieved through the control of emissions in separate source categories. Therefore, DAQ determined that it is not necessary to further reduce emissions from GDFs at this time.

1b) SUMMARY OF COMMENT(S): The commenter suggests that Section 102.10, "Monitoring," should include a requirement to identify the cause of, and make repairs to, leaks found to be twice the rate calculated by the procedure in Section 102.7(c)(4)(G). The commenter also suggests requiring repairs to bring the leak rate below 2x the threshold.

RESPONSE: As explained in the response above, DAQ does not intend to include emissions standards in Section 102 that are additional to those in Section 52 and 40 CFR Part 63, Subpart CCCCCC, other than to introduce a contingency measure if the nonattainment area fails to meet the 2015 ozone NAAQS by the attainment deadline. Section 102 requires that a GDF conduct initial and subsequent testing of its system, including CARB test procedure TP201.3, "Determination of 2-inch WC Static Pressure Performance of Vapor Recovery Systems of Dispensing Facilities." The GDF must comply with all standards of Section 102. Owners and operators are required to resolve system issues and make contemporaneous repairs as necessary to meet the performance deadlines specified in Section 102. GDFs not meeting the standards of Section 102 will be held in violation until subsequent tests demonstrate compliance.

1c) SUMMARY OF COMMENT(S): The commenter suggests that the proposed requirements of Section 102.7 are merely reiterating standard control practices relating to Stage I vapor recovery, and that DAQ has overlooked how significant amounts of fugitive and vent emissions can be released to the atmosphere. The commenter highlighted that benzene could have potentially serious impacts on the health of people living and/or working near a GDF. The commenter explains that fugitive and vent emissions are correlated to tank pressure, and the monitoring of tank pressure is "easy." The commenter suggests tank pressure monitoring can be used to warrant add-on control devices. Finally, the commenter explains that storage tanks emit vapors regardless of whether Stages I or II vapor recovery systems are employed. The commenter offers their company's data to assist with rulemaking.

RESPONSE: As explained in the response above, Section 102 is a compilation of all existing applicable requirements. DAQ does not intend to include emissions standards in Section 102 additional to those in Section 52 and 40 CFR Part 63, Subpart CCCCCC, other than to introduce a contingency measure if the nonattainment area fails to meet the 2015 ozone NAAQS by the attainment deadline. Section 102 addresses the requirements of the Act as they relate to moderate nonattainment areas for the NAAQS (which do not regulate benzene), including the implementation of CTG RACT standards for GDFs.