

Ohio EPA
Division of Air Pollution Control
Engineering Guide #77

Purpose:

This Guide was prepared to address questions from the Ohio EPA District Offices and local air agencies and the regulated community concerning the proper application of amended OAC rule 3745-21-07 to emissions units that generate organic compound emissions. It includes guidance in the form of general examples that illustrate which limitations apply in different source scenarios and how those limitations are applied in those scenarios. The Guide incorporates and expands on the examples originally included in the White Paper for the amended rule. These scenarios should cover the most common questions that arise when determining the applicability of the amended rule.

Details:

Before presenting the general examples concerning the applicability of the amended 21-07 rule, it is important to bring attention to certain elements of the amended rule that are the basis for determining rule applicability and usage.

The use of the words “existing” and “new” in the information below have the following meaning: **existing** means the unit was installed or commenced installation **prior** to the effective date of the amended 21-07 rule; **new** means the unit was installed or commenced installation **after** the effective date of the amended 21-07 rule. The effective date of the amended 21-07 rule is **February 18, 2008**.

The requirements of the amended 21-07 rule do not apply if any of the following OAC rules apply to the VOC emissions: 3745-21-09, -12, -13, -14, -15, -16, or -18. In addition, the requirements of the amended 21-07 rule do not apply if the following new RACT rules apply to the VOC emissions: 3745-21-19, -20, -21, -22, -23, or -24. These additional RACT rules are not yet listed in the amended 21-07 rule, but will be the next time this rule is revised. The requirements of the amended 21-07 rule also will not apply to VOC emissions regulated by any future VOC RACT rules. (It should be noted that this wording is in reference to the “VOC emissions” and not the emissions unit. It’s possible that some emissions units will be subject to both the amended 21-07 rule and one of the rules noted above. For example, an emissions unit that coats both plastic and metal parts might be subject to both the amended 21-07 rule for the plastic parts coating and 21-09(U) for the metal parts coating.) See the table below for the complete list of VOC RACT rules.

The amended rule primarily applies to the existing emissions units that are identified in this rule. However, there are some generic requirements, for example in the new 21-07(M)(2), (M)(3), and (M)(4), that apply to any existing emissions unit where the previous 21-07(G) rule had applied. The (M)(2), (M)(3), and (M)(4) rules are catch-alls for existing emissions units where emissions need to be controlled, but were not identified in (M)(1).

The (M)(4) requirement is a carryover of the (G)(1) limitations (3 lbs/hr and 15 lbs/day limits or at least 85% overall control efficiency) for situations where liquid organic material comes into contact with flame or is baked, heat-cured, or heat-polymerized, in the presence of oxygen.

The (M)(2) requirement is a carryover of the 85% overall control efficiency requirement from (G)(2). However, it is important to note that the 8 lbs/hr and 40 lbs/day limitations have not been carried over from the previous 21-07(G)(2).

The (M)(3)(a) rule was included to identify any existing emissions units that meet the control requirements of (M)(2) and should have been identified in (M)(1), but were overlooked. The requirements of (M)(3)(a) only apply if the emissions unit has a control device and is meeting the control requirements of (M)(2). Before applying the requirements of (M)(3)(a) it is necessary to review (M)(3)(c), which provides exemptions from (M)(3)(a) and (M)(3)(b). For example, for (M)(3)(c)(ii), if an emissions unit has a control device, but the uncontrolled potential to emit OC emissions is less than 40 lbs/day, then the emissions unit is exempt from the requirements of the amended 21-07 rule. An example of this type of situation might be where a facility wanted to control HAP emissions, but the controls were not needed to comply with the (G)(2) requirements.

There are some situations where an emissions unit had a control device that only achieved an overall control efficiency of 50%. This was sufficient to achieve compliance with the 8 lbs/hour and 40 lbs/day limits from (G)(2); however, the uncontrolled potential to emit exceeded 40 lbs/day. In this situation, rather than adding the emissions unit to the list in (M)(1), the emissions unit should be added to (M)(3)(d). The facility would need to submit a notification to this effect. The notification should be submitted to both Ohio EPA, DAPC Central Office, and the appropriate District Office or local air agency.

For new emissions units at **non-Title V** facilities where a PTIO is being processed, if the emissions unit is not subject to OAC rule 3745-21-09, -12 thru -16, or -18 thru -24 then the OC emissions will only be regulated under BAT for any emissions unit with a controlled potential to emit greater than 10 tons/year. If BAT does not apply, then there will be no emission limit for the OC emissions from the new unit. The “controlled potential to emit” means the “potential to emit” as defined in OAC rule 3745-31-01, taking into account the air pollution controls installed for the emissions unit.

For new emissions units at a **Title V facility where a PTI is being processed or for new emissions units that are issued a FEPTIO**, if the emissions unit is not subject to OAC rule 3745-21-09, -12 thru -16, or -18 thru -24 then the OC emissions will be regulated either under BAT for any emissions unit with a controlled potential to emit greater than 10 tons/year or under the existing SIP using OAC rule 3745-21-07(G) limitations. If BAT does not apply, then the OC emissions will only be subject to the 21-07(G) requirements since this is still an applicable rule until USEPA approves the amended 21-07 rule. In addition, it will be necessary to add a term that states that the 21-07(G) rule will no longer apply after the amended 21-07 rule is approved by USEPA (see Terms & Conditions Library for the sunset term). **After USEPA approves the amended 21-07 rule**, then new emissions units at Title V facilities and FEPTIOs will be permitted the same as noted above for non-Title V facilities.

For Title V permits and FEPTIO permits for existing emissions units, both the existing SIP requirements from 21-07(G) and the applicable requirement from the amended 21-07(M) rule will be cited in the table in b)(1) of the permit. Note that all of the terms connected to the amended 21-07 rule will need to be identified as “enforceable under State law only” in term 1.a) until USEPA approves the amended 21-07 rule. The amended 21-07 rule is not part of the federally approved SIP yet; therefore, it will be necessary to add the sunset term that states that the existing SIP requirement will end after the amended 21-07 rule is approved by USEPA.

For PTIO renewals for existing emissions units, the amended 21-07 rule, if applicable, should be cited in place of the old 21-07(G) rule. The old 21-07(G) rule requirements would be omitted from the permit. Keep in mind though, as noted above, that the amended rule primarily applies to the existing emissions units that have been cited in the amended rule and that there are also some generic requirements in (M)(2), (M)(3), and (M)(4) for any existing emissions unit that was previously regulated under 21-07(G).

For more information regarding the amended 21-07 rule, a White Paper is available and posted on the web (see Appendix A for example permitting situations):

<http://www.epa.state.oh.us/dapc/regs/3745-21/3745-21-07WhitePaperRefile.pdf>

The permitting examples in Appendix A of the White Paper have been included in this Engineering Guide with additional clarification as to how the amended rule should be addressed in permit recommendations.

**List of OAC rules for the control of VOC emissions
from stationary sources, where the regulated emissions
are not subject to amended OAC rule 3745-21-07**

| OAC rule | Category |
|-----------------|--|
| 3745-21-09 | Control of Volatile Organic Compounds from Stationary Sources |
| -21-09(C) | Surface coating of automobiles and light-duty trucks |
| -21-09(D) | Surface coating of cans |
| -21-09(E) | Coil coating |
| -21-09(F) | Paper coating |
| -21-09(G) | Fabric coating |
| -21-09(H) | Vinyl coating |
| -21-09(I) | Surface coating of metal furniture |
| -21-09(J) | Magnet wire coating |
| -21-09(K) | Surface coating of large appliances |
| -21-09(L) | Storage of petroleum liquids in fixed roof tanks |
| -21-09(M) | Refinery vacuum producing systems, wastewater separators, and process unit turnarounds |
| -21-09(N) | Use of cutbacks and emulsified asphalts in road construction and maintenance |
| -21-09(O) | Solvent metal cleaning |
| -21-09(P) | Bulk gasoline plant |
| -21-09(Q) | Bulk gasoline terminal |
| -21-09(R) | Gasoline dispensing facilities - stage I vapor control systems |
| -21-09(S) | Alside, Inc. - North Hampton Township, Summit County |
| -21-09(T) | Leaks from petroleum refinery equipment |
| -21-09(U) | Surface coating of miscellaneous metal parts and products |
| -21-09(V) | Gasoline tank trucks |
| -21-09(W) | Synthesized pharmaceutical manufacturing facility |
| -21-09(X) | Rubber tire manufacturing facility |
| -21-09(Y) | Flexographic, packaging rotogravure, publication rotogravure printing |
| -21-09(Z) | Storage of petroleum liquids in external floating roof tanks |
| -21-09(AA) | Perchloroethylene dry cleaning facility |
| -21-09(BB) | Petroleum dry cleaning facility |
| -21-09(CC) | Continuous polystyrene resin manufacturing |
| -21-09(DD) | Leaks from process units that produce organic chemicals |
| -21-09(EE) | Air oxidation processes that produce organic chemicals |
| -21-09(FF) | Steelcraft Manufacturing Co. - Cincinnati |
| -21-09(GG) | Chevron U.S.A., Inc. - Hamilton County |
| -21-09(HH) | Surface coating of automotive/transportation and business machine plastic parts |
| -21-09(II) | International Paper Co. - Springdale |
| -21-09(JJ) | Goodyear Tire and Rubber Co. - Akron |
| -21-09(KK) | Morton Thiokol, Inc. - Cincinnati |
| -21-09(LL) | The Lubrizol Corp. - Painseville |
| -21-09(MM) | PPG Industries, Inc. - Cleveland |
| -21-09(NN) | Von Roll USA, Inc. - Cleveland |

| List of OAC rules for the control of <u>VOC emissions</u> from stationary sources, where the regulated <u>emissions</u> are not subject to amended OAC rule 3745-21-07 | |
|---|--|
| -21-09(OO) | Armco, Inc. - Middletown Works |
| -21-09(PP) | Formica Corp. - Cincinnati |
| -21-09(QQ) | Day Glo Corp - Cleveland |
| -21-09(RR) | Sherwin Williams Diversified Brands, Inc. - Bedford Heights |
| -21-09(SS) | Ritrama Duramark - Cleveland |
| -21-09(TT) | ICI Americas Inc. - Perry |
| -21-09(UU) | British Petroleum Co. - Oregon |
| -21-09(VV) | Marathon Oil Petroleum LLC - Canton |
| -21-09(WW) | Reserved |
| -21-09(XX) | Columbus Coated Fabrics - Columbus |
| -21-09(YY) | PMC Specialties Group - Cincinnati |
| -21-09(ZZ) | Firestone Synthetic Rubber & Latex Co.- Akron |
| -21-09(AAA) | Reserved |
| -21-09(BBB) | BF Goodrich Co. Akron Chemical Plant - Akron |
| -21-09(CCC) | Reserved |
| -21-09(DDD) | Gasoline dispensing facilities - stage II vapor control systems |
| 3745-21-12 | Control of Volatile Organic Compound Emissions from Commercial Bakery Oven Facilities |
| 3745-21-13 | Control of Volatile Organic Compound Emissions from Reactors and Distillation Units Employed in SOCM I Chemical Production |
| 3745-21-14 | Control of Volatile Organic Compound Emissions from Reactors and Distillation Units Employed in SOCM I Chemical Production |
| 3745-21-15 | Control of Volatile Organic Compound Emissions from Wood Furniture Manufacturing Operations |
| 3745-21-16 | Control of Volatile Organic Compound Emissions from Industrial Wastewater |
| 3745-21-18 | Commercial Motor Vehicle and Mobile Equipment Refinishing Operations |

| Additional list of OAC rules for the control of <u>VOC emissions</u> from stationary sources, where the regulated <u>emissions</u> are not subject to amended OAC rule 3745-21-07, but the new rules have not been listed in the amended 21-07 rule yet. | |
|---|---|
| OAC rule | Category |
| 3745-21-19 | Control of volatile organic compound emissions from aerospace manufacturing and rework facilities. |
| 3745-21-20 | Control of volatile organic emissions from shipbuilding and ship repair operations (marine coatings). |
| 3745-21-21 | Storage of volatile organic liquids in fixed roof tanks and external floating roof tanks. |
| 3745-21-22 | Control of volatile organic compound emissions from offset lithographic printing and letterpress printing facilities. |
| 3745-21-23 | Control of volatile organic compound emissions from industrial solvent cleaning operations. |
| 3745-21-24 | Flat wood paneling coatings. |

It should be noted that amended OAC rule 3745-21-07(M)(5) contains several exemptions that specify when paragraphs (M)(2), (M)(3)(a), (M)(3)(b), (M)(3)(d), (M)(3)(e), (M)(3)(f), (M)(3)(g), (M)(3)(h), or (M)(4) might not apply. These exemptions should be checked prior to including one of these rules as an applicable rule in a permit. If one of the exemptions applies, include a clarification statement in the Additional Terms and Conditions stating that the amended 21-07 rule does not apply per the appropriate exemption.

Also, note that the exemption in the new 21-07(M)(5)(e) is the same as the old 21-07(G)(9)(g).

The following examples show the effects of amended rule 3745-21-07 on permits that were issued prior to the effective date of amended rule 3745-21-07. The term "void," means not enforceable because certain provisions are no longer in effect.

PTI means permit-to-install.

PTO means permit-to-operate.

PTIO means permit-to-install/operate.

FEPTIO means federally enforceable permit-to-install/operate.

TVP means Title V permit.

Example #1A

A facility has a permit (PTI, PTO, or TVP) for a coating (or printing) operation which cites OAC rule 3745-21-07(G) or a subparagraph of OAC rule 3745-21-07(G). The coating (or printing) operation does not have a control device for OC emissions, does not have an applicable requirement under one of the VOC RACT rules listed in the tables at the beginning of this guide, and is not listed within paragraphs (M)(1) and (M)(3)(d) through (M)(3)(h) of amended OAC rule 3745-21-07. The permit specifies the following requirements:

- a) OC emission limits of 8 pounds/hour and 40 pounds/day from coating (or printing) excluding cleanup, 8.0 tons OC/year from coating (or printing) including cleanup;
- b) operational restrictions of 8 gallons/day for coating (or printing), 1 gallon/day for cleanup, 2,000 gallons/year for coatings, 250 gallons/year for cleanup, and no PRM for cleanup; and

- c) record keeping and reporting associated with the above OC limits and operational restrictions.

Upon the effective date of amended OAC rule 3745-21-07, only the following requirements in the permit would be void:

- a) OC emission limits of 8 pounds/hour and 40 pounds/day from coating (or printing) excluding cleanup;
- b) operational restriction of no PRM for cleanup; and
- c) record keeping and reporting associated with the above OC limits and operational restriction.

If the permit is a Title V permit or FEPTIO, then the listed requirements would not be void until the new rule is approved by USEPA in the Ohio SIP. The old 21-07 requirements would be retained in the renewal permit with the addition of the sunset language included in the Additional Terms and Conditions in b)(2) of the emissions unit terms.

Do not include the above-mentioned, old 21-07 requirements in a renewal permit for a minor facility PTIO. Furthermore, it should be noted that for non-Title V permits, any reporting elements that are not rule-based would be deleted and would be covered instead by the Permit Evaluation Report (PER) in the PTIO. For FEPTIO permits, any reporting elements that are not rule-based would be deleted unless the reporting element is for a federally enforceable restriction on potential to emit. In this example, the reporting for the tons/year limit and the reporting for the operational restrictions on coating usage would be deleted and instead covered by the PER term for a PTIO, but possibly retained if they were needed as federally enforceable restrictions for a FEPTIO.

In the renewal permit that gets processed, since there is no control device there is no applicable requirement from the amended 21-07 rule; therefore, the amended 21-07 rule should not be cited in the permit. However, clarification can be added in the Additional Terms and Conditions section stating that the rule does not apply because there is no control device. The permit would only contain any previous BAT limits such as a ton/year limit or lb/hr and lb/day limits that were different from the limits from the old 21-07(G) rule. Optional wording that can be used in the Additional Terms and Conditions: "The requirements of OAC rule 3745-21-07(M) are not applicable because there is no control device for this emissions unit."

Example #1B

A facility has a permit (PTI, PTO, or TVP) for a coating (or printing) operation which cites OAC rule 3745-21-07(G) or a subparagraph of OAC rule 3745-21-07(G). The

coating (or printing) operation does not have a control device for OC emissions, does not have an applicable requirement under one of the VOC RACT rules listed in the tables at the beginning of this guide, and is not listed within paragraph (M) of amended OAC rule 3745-21-07. The permit specifies the following requirements:

- a) OC emission limits of 8 pounds/hour and 25 pounds/day from coating (or printing) excluding cleanup, 6.0 tons OC/year from coating (or printing) including cleanup;
- b) operational restrictions of 5 gallons/day for coating (or printing), 1 gallon/day for cleanup, 1,500 gallons/year for coatings, 250 gallons/year for cleanup, and no PRM for cleanup; and
- c) record keeping and reporting associated with the above OC limits and operational restrictions.

Upon the effective date of amended OAC rule 3745-21-07, only the following requirements in the permit would be void:

- a) OC emission limits of 8 pounds/hour from coating (or printing) excluding cleanup;
- b) operational restriction of no PRM for cleanup; and
- c) record keeping and reporting associated with the above OC limit and operational restriction.

If the permit is a Title V permit or FEPTIO, then the listed requirements would not be void until the new rule is approved by USEPA in the Ohio SIP. The old 21-07 requirements would be retained in the renewal permit with the addition of the sunset language included in the Additional Terms and Conditions.

Do not include the above-mentioned, old 21-07 requirements in a renewal permit for a minor facility PTIO. The reporting for the lbs/day and tons/year limits and the reporting for the operational restrictions on coating and cleanup usage would be deleted for a non-Title V permit and instead covered by the PER term in the PTIO. For FEPTIO permits, any reporting elements that are not rule-based would be deleted unless the reporting element is for a federally enforceable restriction on potential to emit.

Similar to example 1A, in the renewal permit that gets processed, since there is no control device there is no applicable requirement from the amended 21-07 rule; however, clarification can be added in the Additional Terms and Conditions section stating that the rule does not apply because there is no control device.

It should also be noted that even if the 8 lbs/hour limit were established under BAT, but it was clear that this limit was driven by the old 21-07, then the 8 lbs/hour limit would still be eliminated.

Example #1C

A facility has a permit (PTI, PTO, or TVP) for a coating (or printing) operation which cites OAC rule 3745-21-07(G) or a subparagraph of OAC rule 3745-21-07(G). The coating (or printing) operation does not have a control device for OC emissions, does not have an applicable requirement under one of the VOC RACT rules listed in the tables at the beginning of this guide, and is not listed within paragraph (M) of amended OAC rule 3745-21-07. The permit specifies the following requirements:

- a) OC emission limits of 50 pounds/day from coating (or printing) excluding cleanup, 10.0 tons OC/year from coating (or printing) including cleanup;
- b) operational restrictions of 10 gallons/day for coating (or printing), 1 gallon/day for cleanup, 2,500 gallons/year for coatings, 250 gallons/year for cleanup, no PRM for coating (or printing) material, and no PRM for cleanup; and
- c) record keeping and reporting associated with the above OC limits and operational restrictions.

Upon the effective date of amended OAC rule 3745-21-07, only the following requirements in the permit would be void:

- a) operational restrictions of no PRM for coating (or printing) materials and no PRM for cleanup; and
- b) record keeping and reporting associated with the above operational restrictions.

If the permit is a Title V permit or FEPTIO, then the listed requirements would not be void until the new rule is approved by USEPA in the Ohio SIP. The old 21-07 requirements would be retained in the renewal permit with the addition of the sunset language included in the Additional Terms and Conditions.

Do not include the above-mentioned, old 21-07 requirements in a renewal permit for a minor facility PTIO. The reporting for the lbs/day and tons/year limits and the reporting for the operational restrictions on coating and cleanup usage would be deleted for a non-Title V permit and instead covered by the PER term in the PTIO. For FEPTIO permits, any reporting elements that are not rule-based would be deleted unless the reporting element is for a federally enforceable restriction on potential to emit.

Similar to example 1A, in the renewal permit that gets processed, since there is no control device there is no applicable requirement from the amended 21-07 rule; however, clarification can be added in the Additional Terms and Conditions section stating that the rule does not apply because there is no control device.

Example #1D

A facility has a permit (PTI, PTO, or TVP) for a coating (or printing) operation which cites OAC rule 3745-21-07(G) or a subparagraph of OAC rule 3745-21-07(G). The coating (or printing) operation does not have a control device for OC emissions, does not have an applicable requirement under one of the VOC RACT rules listed in the tables at the beginning of this guide, and is not listed within paragraph (M) of amended OAC rule 3745-21-07. The permit specifies the following requirements:

- a) OC emission limits of:
 - 10 pounds/hour on any day in which a PRM is not employed;
 - 8 pounds/hour and 40 pounds/day on any day in which a PRM is employed;
 - 20 tons per year (or 20 tons per rolling 12-month period);
 - 5.0 lbs/gallon of coating;
- b) operational restriction requiring use of high volume low pressure spray; and
- c) record keeping and reporting associated with the above OC limits and operational restriction.

Upon the effective date of amended OAC rule 3745-21-07, only the following requirements in the permit would be void:

- a) OC emission limits of 8 pounds/hour and 40 pounds/day on any day in which a PRM is employed; and
- b) record keeping and reporting associated with the above emission limits.

If the permit is a Title V permit or FEPTIO, then the listed requirements would not be void until the new rule is approved by USEPA in the Ohio SIP. The old 21-07 requirements would be retained in the renewal permit with the addition of the sunset language included in the Additional Terms and Conditions.

Do not include the above-mentioned, old 21-07 requirements in a renewal permit for a minor facility PTIO. The reporting for the 10 lbs/hr, 20 tons/year, and 5 lbs/gal limits and the reporting for the operational restriction using HVLP spray gun would be deleted for a non-Title V permit and instead covered by the PER term in the PTIO. For FEPTIO

permits, any reporting elements that are not rule-based would be deleted unless the reporting element is for a federally enforceable restriction on potential to emit.

Special Note on Example #1D: The OC emission limit of 10 pounds per hour and the record keeping and reporting associated with that OC emission limit would apply for all days. The PTI for this operation would most likely be modified by Ohio EPA to clarify these requirements, but such modification may not occur for some time due to limited resources.

Similar to example 1A, in the renewal permit that gets processed, since there is no control device there is no applicable requirement from the amended 21-07 rule; however, clarification can be added in the Additional Terms and Conditions section stating that the rule does not apply because there is no control device.

Example #2A

A facility has a permit (PTI, PTO, or TVP) for an operation which cites OAC rule 3745-21-07(G)(9)(c). The operation employs a process material and a cleanup material. The operation does not have a control device for OC emissions, does not have an applicable requirement under one of the VOC RACT rules listed in the tables at the beginning of this guide, and is not listed within paragraph (M) of amended OAC rule 3745-21-07. The permit specifies the following requirements:

- a) OC emission limit of 3 tons OC/year from the operation including cleanup;
- b) operational restrictions:
 - (i) volatile content of the process material, consisting of water and liquid organic material, shall contain a liquid organic material that comprises not more than 20 percent by volume of the volatile content and said volatile content shall not be a PRM; and
 - (ii) cleanup material shall not be a PRM; and
- c) record keeping and reporting associated with the above OC limit and operational restrictions.

Upon the effective date of amended OAC rule 3745-21-07, only the following requirements in the permit would be void:

- a) operational restrictions on the volatile content of the process material and the use of no PRM for cleanup; and
- b) record keeping and reporting associated with the above operational restrictions.

If the permit is a Title V permit or FEPTIO, then the listed requirements would not be void until the new rule is approved by USEPA in the Ohio SIP. The old 21-07 requirements would be retained in the renewal permit with the addition of the sunset language included in the Additional Terms and Conditions.

Do not include the above-mentioned, old 21-07 requirements in a renewal permit for a minor facility PTIO. The reporting for the 3 tons OC/year limit would be deleted for a non-Title V permit and instead covered by the PER term in the PTIO. For FEPTIO permits, any reporting elements that are not rule-based would be deleted unless the reporting element is for a federally enforceable restriction on potential to emit.

Special Note on Example #2A: If the above operation is subject to paragraph (M)(4) of amended OAC rule 3745-21-07, the exemption under paragraph (M)(5)(d)(i) may be appropriate as an operational restriction for the process material. However, do not cite (M)(5)(d)(i) as an applicable rule, instead cite 21-07(M)(4) and include a clarification in the Additional Terms and Conditions stating that the 21-07(M)(4) rule does not apply per this exemption. If (M)(4) does apply, then cite this as an applicable rule and include the emission limits from this rule in the permit.

If (M)(4) does not apply, then similar to example 1A, in the renewal permit that gets processed, since there is no control device there is no applicable requirement from the amended 21-07 rule; however, clarification can be added in the Additional Terms and Conditions section stating that the rule does not apply because there is no control device.

Example #2B

A facility has a permit (PTI, PTO, or TVP) for an operation which cites OAC rule 3745-21-07(G)(9)(d). The operation employs a process material and a cleanup material. The operation does not have a control device for OC emissions, does not have an applicable requirement under one of the VOC RACT rules listed in the tables at the beginning of this guide, and is not listed within paragraph (M) of amended OAC rule 3745-21-07. The permit specifies the following requirements:

- a) OC emission limit of 3 tons OC/year from the operation including cleanup;
- b) operational restrictions:
 - (i) volatile content of the process material shall not exceed 20 percent by volume of the process material and the volatile content shall not be a PRM; and
 - (ii) cleanup material shall not be a PRM; and

- c) record keeping and reporting associated with the above OC limit and operational restrictions.

Upon the effective date of amended OAC rule 3745-21-07, only the following requirements in the permit would be void:

- a) operational restrictions on the volatile content of the process material and the use of no PRM for cleanup; and
- b) record keeping and reporting associated with the above operational restrictions.

If the permit is a Title V permit or FEPTIO, then the listed requirements would not be void until the new rule is approved by USEPA in the Ohio SIP. The old 21-07 requirements would be retained in the renewal permit with the addition of the sunset language included in the Additional Terms and Conditions.

Do not include the above-mentioned, old 21-07 requirements in a renewal permit for a minor facility PTIO. The reporting for the 3 tons OC/year limit would be deleted for a non-Title V permit and instead covered by the PER term in the PTIO. For FEPTIO permits, any reporting elements that are not rule-based would be deleted unless the reporting element is for a federally enforceable restriction on potential to emit.

Special Note on Example #2B: If the above operation is subject to paragraph (M)(4) of amended OAC rule 3745-21-07, the exemption under paragraph (M)(5)(d)(ii) may be appropriate as an operational restriction. However, do not cite (M)(5)(d)(ii) as an applicable rule, instead cite 21-07(M)(4) and include a clarification in the Additional Terms and Conditions stating that the 21-07(M)(4) rule does not apply per this exemption. If (M)(4) does apply then cite this as an applicable rule and include the emission limits from this rule in the permit.

If (M)(4) does not apply, then similar to example 1A, in the renewal permit that gets processed, since there is no control device there is no applicable requirement from the amended 21-07 rule; however, clarification can be added in the Additional Terms and Conditions section stating that the rule does not apply because there is no control device.

Example #3A

A facility has a permit (PTI, PTO, or TVP) for an operation which cites OAC rule 3745-21-07(G) or a subparagraph of OAC rule 3745-21-07(G). The operation has an incineration type control device for OC emissions, does not have an applicable requirement under one of the VOC RACT rules listed in the tables at the beginning of

this guide, and is listed within paragraph (M)(1) of amended OAC rule 3745-21-07. The permit specifies the following requirements:

- a) limitation on controlling non-cleanup OC emissions from the operation by means of a control system that reduces such OC emissions from the operation by at least 85 % and that uses an incineration-type control device with a destruction efficiency of at least 90%;
- b) operational restrictions on when the control system is to be operated, the minimum combustion temperature of the incineration-type control device, and no PRM for cleanup;
- c) combustion temperature monitoring; and
- d) record keeping and reporting associated with the above OC limits, operational restrictions, and monitoring requirements.

Upon the effective date of amended OAC rule 3745-21-07, only the following requirements in the permit would be void:

- a) operational restriction of no PRM for cleanup, and
- b) record keeping and reporting associated with the above operational restriction.

If the permit is a Title V permit or FEPTIO, then the listed requirements would not be void until the new rule is approved by USEPA in the Ohio SIP. The old 21-07 requirements would be retained in the renewal permit with the addition of the sunset language included in the Additional Terms and Conditions in b)(2) of the emissions unit terms.

Do not include the above-mentioned, old 21-07 requirements in a renewal permit for a minor facility PTIO. The reporting for the limitation on controlling non-cleanup OC emissions, control efficiency, time period for operating control device, and minimum combustion temperature limit would be deleted for a non-Title V permit and instead covered by the PER term in the PTIO. For FEPTIO permits, any reporting elements that are not rule-based would be deleted unless the reporting element is for a federally enforceable restriction on potential to emit.

Special Note on Example #3A: If the above "controlled operation" is not listed within paragraph (M)(1) of amended OAC rule 3745-21-07 and there is no applicable federal regulation or BAT limit requiring a greater control of the OC emissions, then Ohio EPA should be notified immediately about such operation pursuant to paragraph (M)(3)(b) of amended OAC rule 3745-21-07. Also, the operation may be subject to paragraph (M)(3)(a) or (M)(4) of amended OAC rule 3745-21-07.

Assuming the above “controlled operation” is listed within paragraph (M)(1) of amended OAC rule 21-07, then (M)(1) and (M)(2) should be cited as applicable rules in the permit and include the control requirements identified in (M)(2).

If the above “controlled operation” is not listed in (M)(1), but the controlled operation is subject to (M)(3)(a), then cite both (M)(2) and (M)(3)(a) as applicable rules in the permit and include the control requirements identified in (M)(2).

If the above “controlled operation” is not listed in (M)(1), but the controlled operation is subject to (M)(4), then cite (M)(4) in the permit and include the control requirements from this rule.

If a facility needs to submit a notification per (M)(3)(b), then the notification should be sent to the Ohio EPA Central Office and/or the appropriate Ohio EPA District Office or local air agency. The notification should be forwarded to the attention of the Chief of DAPC stating that the facility should be added to (M)(1) and identifying the specific emissions units that are involved.

Example #3B

A facility has a permit (PTI, PTO, or TVP) for an operation which cites OAC rule 3745-21-07(G) or a subparagraph of OAC rule 3745-21-07(G). The operation has an incineration type control device for OC emissions, does not have an applicable requirement under one of the VOC RACT rules listed in the tables at the beginning of this guide, and is listed within paragraph (M)(1) of amended OAC rule 3745-21-07. The permit specifies the following requirements:

- a) limitation on controlling non-cleanup OC emissions from the operation by means of a control system that reduces such OC emissions from the operation by at least 85% or reduces such OC emissions to not exceed 40 pounds per day, and that uses an incineration-type control device with a destruction efficiency of at least 90%;
- b) OC emission limits of 7.3 tons per year (or 7.3 tons per rolling 12-month period), excluding cleanup and 1.0 tons per year (or 1.0 tons per rolling 12 month period) for cleanup;
- c) operational restrictions on when the control system is to be operated, the minimum combustion temperature of the incineration-type control device, and no PRM for cleanup;
- d) combustion temperature monitoring; and

- e) record keeping and reporting associated with the above OC limits, operational restrictions, and monitoring requirements.

Upon the effective date of amended OAC rule 3745-21-07, only the following requirements in the permit would be void:

- a) OC emission limit of 40 pounds per day;
- b) operational restriction of no PRM for cleanup; and
- c) record keeping and reporting associated with the above OC limit and operational restriction.

If the permit is a Title V permit or FEPTIO, then the listed requirements would not be void until the new rule is approved by USEPA in the Ohio SIP. The old 21-07 requirements would be retained in the renewal permit with the addition of the sunset language included in the Additional Terms and Conditions in b)(2) of the emissions unit terms.

Do not include the above-mentioned, old 21-07 requirements in a renewal permit for a minor facility PTIO. The reporting for the limitation on controlling non-cleanup OC emissions, control efficiency, tons/year limits, time period for operating control device, and minimum combustion temperature limit would be deleted for a non-Title V permit and instead covered by the PER term in the PTIO. For FEPTIO permits, any reporting elements that are not rule-based would be deleted unless the reporting element is for a federally enforceable restriction on potential to emit.

Special Note on Example #3B: If the above "controlled operation" is not listed within paragraph (M)(1) of amended OAC rule 3745-21-07 and there is no applicable federal regulation or BAT limit requiring a greater control of the OC emissions, then Ohio EPA should be notified immediately about such operation pursuant to paragraph (M)(3)(b) of amended OAC rule 3745-21-07. The operation may be subject to paragraph (M)(3)(a) or (M)(4) of amended OAC rule 3745-21-07.

See comments from #3A above regarding rule applicability.

Example #4A

A facility has a permit (PTI, PTO, or TVP) for an operation which cites OAC rule 3745-21-07(G) or (G)(1). The operation employs a liquid organic material or substance containing liquid organic material that comes into contact with flame or is baked, heat-cured, or heat-polymerized, in the presence of oxygen. The operation does not have a control device for OC emissions, does not have an applicable requirement under one of the VOC RACT rules listed in the tables at the beginning of this guide, and is not listed

within paragraph (M)(1) of amended OAC rule 3745-21-07. The permit specifies the following requirements:

- a) OC emission limits of 3 pounds/hour and 15 pounds/day, excluding cleanup, and 4.0 tons OC/year including cleanup;
- b) operational restriction of no PRM for cleanup; and
- c) record keeping and reporting associated with the above OC limits and operational restriction.

Upon the effective date of amended OAC rule 3745-21-07, only the following requirements in the permit would be void:

- a) operational restriction of no PRM for cleanup; and
- b) record keeping and reporting associated with the above operational restriction.

If the permit is a Title V permit or FEPTIO, then the listed requirements would not be void until the new rule is approved by USEPA in the Ohio SIP. The old 21-07 requirements would be retained in the renewal permit with the addition of the sunset language included in the Additional Terms and Conditions in b)(2) of the emissions unit terms.

Do not include the above-mentioned, old 21-07 requirements in a renewal permit for a minor facility PTIO. The reporting for the 3 lbs/hr, 15 lbs/day, and 4 tons/yr limits would be deleted for a non-Title V permit and instead covered by the PER term in the PTIO. For FEPTIO permits, any reporting elements that are not rule-based would be deleted unless the reporting element is for a federally enforceable restriction on potential to emit.

Special Note on Example #4A: If the operation is not listed in paragraph (M)(1) of amended OAC rule 3745-21-07, the OC emission limits of 3 lbs/hour and 15 pounds/day that are associated with paragraph (G)(1) of previous OAC rule 3745-21-07 would remain pursuant to paragraph (M)(4) of amended OAC rule 3745-21-07. The (M)(4) rule would be cited in the renewal permit as an applicable rule.

Example #5A

A facility has a permit (PTI, PTO, or TVP) for an operation which cites OAC rule 3745-21-07(D), (E), or (F). The operation stores, loads, or recovers a liquid organic material that is not a volatile photochemically reactive material. The operation does not have a control device for OC emissions, does not have an applicable requirement under one of the VOC RACT rules listed in the tables at the beginning of this guide, and is not listed

within paragraph (K)(1) or (L)(1) of amended OAC rule 3745-21-07. The permit specifies the following requirements:

- a) OC emission limits of 20 pounds/day and 4.0 tons/year;
- b) operational restriction of no volatile photochemically reactive materials; and
- c) record keeping and reporting associated with the above OC limits and operational restriction.

Upon the effective date of amended OAC rule 3745-21-07, only the following requirements in the permit would be void:

- a) operational restriction of no volatile photochemically reactive materials; and
- b) record keeping and reporting associated with the above operational restriction.

If the permit is a Title V permit or FEPTIO, then the listed requirements would not be void until the new rule is approved by USEPA in the Ohio SIP. The old 21-07 requirements would be retained in the renewal permit with the addition of the sunset language included in the Additional Terms and Conditions in b)(2) of the emissions unit terms.

Do not include the above-mentioned, old 21-07 requirements in a renewal permit for a minor facility PTIO. The reporting for the 20 lbs/day and 4 tons/yr limits would be deleted for a non-Title V permit and instead covered by the PER term in the PTIO. For FEPTIO permits, any reporting elements that are not rule-based would be deleted unless the reporting element is for a federally enforceable restriction on potential to emit.

If the emissions unit is listed in (K)(1), (K)(3), or (L)(1), then the appropriate rule should be cited along with the corresponding limitations from (K)(2), (K)(4), or (L)(2) as appropriate.

Also note that it might be necessary to add emissions units to (K)(1), (K)(3), or (L)(1) if the emissions unit was overlooked during rule development. Until the emissions unit is added, however, the amended 21-07 rule would not apply. Therefore, do not cite the amended rule in the permit until the emissions unit has been added to the rule.

Example #6A

A printing facility has a permit-by-rule exemption pursuant to OAC rule 3745-31-03(A)(4)(k) or (A)(4)(l) which have requirements on qualifications, applicable emission limitations, monitoring, record keeping, and reporting. The permit-by-rule exemptions

were amended in December 2006 to remove the requirements pertaining to photochemically reactive materials, i.e., documentation of photochemically reactive material evaluation of each material employed, records of total daily OC emissions, and reporting of exceedances of the 40 lbs/day OC emissions limit whenever photochemically reactive materials were employed.

Example #7A

A coating operation was installed in 1999 which was deemed to be “de minimis” (and, therefore, unregulated) under OAC rule 3745-15-05. The company changed formulations in December 2008 such that the emissions unit can no longer qualify for the “de minimis” exemption, and a PTIO is needed (i.e., it becomes a regulated emissions unit for the first time). The facility is a non-Title V facility. The potential to emit for the emissions unit is less than 10 tons/year and does not have an applicable requirement under one of the VOC RACT rules listed in the tables at the beginning of this Guide. The emissions unit was installed prior to the effective date of amended 21-07 rule (February 18, 2008), but was modified after this date. For this situation, the amended 21-07 rule would not apply because the emissions unit was modified and became a regulated emissions unit, triggering the need for a PTIO for the first time, after the date the amended 21-07 rule became effective. In addition, as noted above, because the potential to emit is less than 10 tons/year after the modification, BAT also would not apply.

We have to look at a modification in the same way that we look at the initial installation of an emissions unit. If the commencement of the initial installation of an emissions unit was before the effective date of the rule, then the emissions unit is subject to the amended rule because the owner should have obtained a PTI before the commencement of the initial installation. The same would be true for a modification requiring a PTI for the first time - the owner would have been required to obtain a PTI before the modification. Therefore, if an emissions unit commences modification before the effective date of the rule, the emissions unit is potentially subject to the amended 21-07 rule.

If the above-mentioned coating operation commenced modification prior to the effective date of the rule, the emissions unit potentially would be subject to the amended 21-07 rule; but, in this case, assuming it is too small to require the installation of controls, there are no applicable requirements. In addition, because the potential to emit is less than 10 tons/year after the modification, BAT also would not apply. However, in this case, if the emissions unit were an oven (where liquid organic material comes into contact with flame or is baked, heat-cured, or heat polymerized, in the presence of oxygen) rather than a coating operation, the oven would be subject to the general requirements in paragraph (M)(4) of the amended rule.

Example #8A

The Ohio Supreme Court's decision in *Ashland Chemical Company v. Jones*, 92 Ohio St. 3d 234, 2001-Ohio-184, ruled that the old OAC rule 3745-21-07(G) could not be applied to container filling operations (and by logical extension, to mixing operations), in which there is no chemical reaction occurring, because the operations are not "employing" any liquid organic materials. How does this ruling affect the applicability of the amended 21-07 rule?

Ohio EPA, DAPC will continue to apply this court decision for the old 21-07(G) rule to mixing and filling operations where no chemical reaction occurs during the process. The old 21-07(G) rule will need to be addressed in FEPTIO and Title V permits until the amended 21-07 rule is approved by USEPA. Most likely, these operations are uncontrolled and would not involve any baking or heat curing; therefore, there would be no applicable requirements from the amended 21-07 rule.

Example #9A

The old 21-07(G) rule provided exemptions for core-making and mold-making operations at foundries. The 21-07(G)(9)(h) and (i) exemptions were as follows:

"(h) The use of a phenolic urethane cold box resin binder system in foundry core making and mold-making operations, provided the catalyst gas emissions are vented to either a sulfuric acid scrubber that is designed and operated to remove at least ninety-eight per cent, by weight, of the catalyst gas emissions or a control device that is designed and operated with an equivalent removal efficiency for the catalyst gas emissions. (In a phenolic urethane cold box resin binder system, sand is mixed with a two-part liquid urethane resin binder, and a catalyst gas is blown into the resin-coated sand to cause hardening.)

(i) The use of a phenolic urethane no-bake resin binder system in foundry core making and mold-making operations. (In a phenolic urethane no-bake resin binder system, sand is mixed with a two-part liquid urethane resin binder and a liquid catalyst, which regulates the speed of the resin curing reaction.)"

The above exemptions have not been included in the amended 21-07 rule. For the 21-07(G)(9)(h) exemption, if an emissions unit qualified for this exemption, and the control requirements were established as part of BAT, then those control requirements will continue to remain in the operating permit for the emissions unit; however, there would be no applicable requirement from the amended 21-07 rule. If the controls were not established as part of BAT, then there will be no applicable requirements for the scrubber control. The primary purpose for the use of the scrubber is to control odor problems as identified by the Ohio Cast Metal Association during negotiations with Ohio EPA. Since the scrubber is needed for odor control, Ohio EPA does not expect that

companies will want to remove the scrubber. If a company wants to remove the scrubber, that will most likely result in an increase in emissions which would trigger the need for a Chapter 3745-31 modification which would involve a BAT analysis for both the resin and catalyst emissions. Most likely, the scrubber would be determined to be BAT for controlling the catalyst emissions since this has already been proven to be a cost-effective means of control.

For the 21-07(G)(9)(i) exemption, since there are no controls required for this type of emissions unit, there are no applicable requirements from the amended 21-07 rule.

JB/CM/JO/BJ

(August 24, 2009)