INTEROFFICE MEMO

OhioEPA

To: Permit Writers and Permit Reviewers

From: Mike Hopkins, Assistant Chief, Permitting, DAPC, through Bob Hodanbosi, Chief, DAPC

Date: February 7, 2014

Re: BAT Requirements for Permits Issued On or After February 7, 2014

This guidance memo supersedes August 30, 2013 *BAT Requirements for Permits Issued On or After October 1, 2013* memo. It contains changes associated with the comments received from interested parties after the August 30th memo was issued.

This guidance applies to BAT determinations made for new or modified sources that were installed or modified on or after February 7, 2014. See the response to Question 42 and the chart found in *Appendix A* found later in this guidance for more information on the applicable dates.

The following procedure shall be used to develop and determine BAT for non-exempt sources[1]. A flow chart of this procedure can be found in *Appendix B* of this document.

1. Applicability of Post August 3, 2009 BAT

Determine the date the installation or modification permit application was ***filed*** (not the completeness determination date). In this case, "modification" means a modification as defined in Chapter 31, not an administrative modification. Determine the date that construction or installation of the air contaminant source was started. If the application was filed prior to August 3, 2009, or the air contaminant source was constructed or modified (for this permit action) prior to August 3, 2009, then BAT for the new or modified air contaminant sources covered under the application shall be determined on a case-by-case basis using past practices (prior to August 3, 2009) for determining BAT. In that case, do not follow the below procedure. Instead, review the chart in *Appendix A* to determine which BAT guidance should be used for that source. If the application was filed and the source was to be installed or modified on or after August 3, 2009, then proceed to the next step.

[1] Exempt sources include those that are exempt under OAC rule 3745-31-03 and those that are exempt from BAT under the <10 ton/yr exemption. This guidance would not apply to de minimis sources because de minimis sources are not required to obtain installation permits.

2. MACT, GACT, BACT, LAER Applicability

Review each air contaminant source, each criteria pollutant (or precursor[2]) and each operating scenario[3] to determine if the source/pollutant combination is subject to Section 112 (Maximum Achievable Control Technology (MACT) or Generally Available Control Technology[4] (GACT)), Part C of Title I (Prevention of Significant Deterioration, PSD) (Best Available Control Technology (BACT)), and Part D of Title I (Nonattainment NSR) (Lowest Achievable Emission Rate (LAER)) of the federal Clean Air Act[5]. If, for the applicable criteria pollutant (or precursor), one or more of the above rules applies, then BAT is equivalent to the most stringent of the above applicable standards. (Note, this requirement of S.B. 265 applies to any permit ***issued*** on or after August 3, 2009. Also note that this approach follows long standing DAPC guidance.)

The format of the MACT/GACT/BACT/LAER based BAT limit established needs to follow the standard format for each of the above requirements. For instance, for BACT and LAER limits, U.S. EPA often requires one or more short term limits, such as an emission rate limit (like lb/hr) and a technology based limit (like ppm, % control, etc.), and an annual limit. For MACT or GACT based BAT limits, the format should be in the same format as found in the applicable MACT or GACT standard. Since most MACT's and GACT's do not have annual limits, no annual limit would be established for BAT.

Do the above analysis for each criteria pollutant or criteria pollutant precursor separately. Also, if the permittee is asking for multiple operating scenarios, then do the analysis for each operating scenario.

If you determine BAT based on this step, then use ORC 3704.03(T) and OAC 3745-31-05(A)(3) for the applicable rule citation for the BAT limit and the typical MACT, GACT, BACT and LAER citation for their equivalent limits. You can use the typical "the requirements of this rule are equivalent to MACT/GACT/BACT/LAER requirements" language.

If, for the particular pollutant, one or more of the above standards apply, then BAT is the MACT/GACT/BACT/LAER limit. Do not establish another BAT requirement for that pollutant in this case unless the permittee is asking for multiple operating scenarios. BAT has been determined and you do not need to do the rest of the procedures below.

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2 NOx and SOx for PM10 or PM2.5, and NOx and VOC for Ozone

3 For example, the use of different fuels, different raw materials, etc.

4 Note that for most cases, Ohio EPA does not accept delegation for applicable GACT standards and we would not list the GACT as an applicable requirement. However, if a GACT exists for a particular source and pollutant, then establish BAT as equivalent to the GACT.

5 Note that under this step, New Source Performance Standards (NSPS) are not included but they can be evaluated as a possible BAT under step 4.

If, for the particular pollutant and operating scenario, none of the above standards apply, then proceed to step three.

3. Reasonably Available Control Technology (RACT) BAT Floor

Review each air contaminant source to determine if the controlled potential to emit of volatile organic compounds[6] (VOC) is greater than or equal to 10 tons per year (controlled is used in this case because the <10 ton/yr exemption is based on controlled emissions)[7]. For those air contaminant sources where the controlled potential to emit of VOC is greater than or equal to 10 tons per year, review the rules of OAC Chapter 21 (Carbon Monoxide, Photochemically Reactive Materials, Hydrocarbons, and related Materials Standards) Reasonably Available Control Technology (RACT) that were effective on January 1, 2006. These rules include the following:

> *The January 1, 2006 version(s) of paragraphs (C) to (J), (K) with the exception of (K)(4), (L) to (N), (O) with the exception of (O)(2)(e), (P) to (R), (U) with the exception of (U)(2)(k) and (U)(2)(l), (V) to (X), (Y) with the exception of (Y)(2)(d) and (Y)(3), (Z) to (EE), and (DDD) of rule 3745-21-09 of the Administrative Code; and*
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> *The January 1, 2006 version(s) of rules 3745-21-11 to 3745-21-16 of the Administrative Code.*

Determine if any VOC rule for any location in the State applies to the same size and type of source you are considering. If a January 1, 2006 effective VOC rule applies anywhere in the State for your type of source, then BAT is determined to be, at a minimum, equivalent to the most stringent VOC rule no matter where in the State that rule applies. Note that this sets the minimum BAT for VOC but you still have to determine if a more stringent case-by-case BAT is appropriate under step 4 below.

Do the above analysis for each operating scenario if there are different operating scenarios.

The format for BAT established in this step should be identical to the format of the RACT rule you are using to establish BAT. You would not add any additional BAT requirements (like a ton/year limit).

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6 Note that the SB 265 language also lists NOx. However, there was no NOx RACT rule in existence on January 1st, 2006 so NOx is not evaluated.

7 Note that there are different criteria for deciding if a source qualifies for the <10 ton/yr BAT exemption vs. if a source needs to determine if a RACT floor exists for BAT for sources that are equal to or greater than 10 tons.

Use the RACT monitoring, record keeping, reporting and testing requirements to support the BAT requirement.

If you determine BAT based on this step and you decide that a more stringent case-by-case BAT requirement is not appropriate under step 4 below, then use ORC 3704.03(T) and OAC Rule 3745-31-05(A)(3) for the applicable rule citation. You should not use the RACT rule citation in this case.

If a RACT limit is established under this step for VOC, then you have determined the "floor" for BAT. Next, you need to do a case-by-case BAT determination to decide if a more stringent BAT should apply in place of the RACT floor. This process is described below in step four. If you have not found a RACT limit that applies, then you also move on to step four.

4. Case-by-Case BAT Determination

If the procedures described in step one through step three above do not result in a determination of BAT for the pollutant and/or operating scenario, then a case-by-case determination must be made. In addition, if you determined the minimum BAT for VOC based on the RACT requirement as described in step three above, then use this step to determine if a more stringent requirement than RACT is appropriate for BAT.

In order to determine BAT under the revised SB 265 language, permit writers need to take two steps. First, they will need to follow the historic approach to evaluating various alternatives to BAT, and then, second, they will need to determine the appropriate SB 265 method that should be used to express BAT.

a. Initial Evaluation of BAT

First, the permit writer should review each air contaminant source to understand the type of process used, the equipment used, the materials used etc. in order to fully understand the air pollution source. This review is designed to understand the type and size of the air pollution source so it can be compared to similar type and size sources.

Once the size and type of source is understood, then permit writers should review other similar sources in Ohio and in other states with similar air quality (excluding states, for example, that have severe non-attainment areas) to determine what level of control has been demonstrated to work for these sources. For many common sources, this analysis will involve simply reviewing other permits for similar sources. For other more

significant sources, this may involve a more detailed cost-effectiveness analysis. Remember, you will need to do this analysis for each pollutant and for each operating scenario. In any case, this analysis will follow our traditional analysis to evaluate BAT options.

When you do your analysis for BAT, you are typically going to be reviewing short-term emission rates like lb/hr or lb/ton of product or control efficiencies and comparing them to various options for BAT. For larger sources, you may also need to evaluate the cost effectiveness for potential control options. This will follow our traditional analysis for BAT.

In some cases, for instance for fugitive type sources, the conclusion will not result in a numerical value but, instead, will result in a description of a work practice. That work practice will then, typically, be used as a descriptor for BAT.

Once this analysis is complete, the next step is to determine the method that should be used to express BAT.

b. Determining the Appropriate Method to Express BAT

Next, the permit writer should determine the appropriate method to ***express*** the BAT requirement. S.B. 265 directs BAT to be expressed as follows:

> *Best available technology requirements established in rules adopted under this division shall be expressed only in one of the following ways that is most appropriate for the applicable source or source categories:*
>
> *1) Work practices;*
> *2) Source design characteristics or design efficiency of applicable air contaminant control devices;*
> *3) Raw material specifications or throughput limitations averaged over a twelve-month rolling period;*
> *4) Monthly allowable emissions averaged over a twelve-month rolling period.*[8]

Each of these options is described in more detail below. In order to improve the readability of the below discussion, the below table describes the shortened term I will use for each acceptable BAT expression.

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8 See the response to question 24 later in this document for a discussion concerning the difference between "monthly allowable emissions averaged over a twelve-month rolling period" and the more traditional, "tons of emission per rolling 12-month period".

Original Language	Shortened Language
Work practices	*Work Practice*
Source design characteristics	*Source Design Characteristic*
Design efficiency of applicable air contaminant control devices	*Design Efficiency*
Raw material specifications or throughput limitations averaged over a twelve-month rolling period	*Raw Material/Throughput*
Monthly allowable emissions averaged over a twelve-month rolling period	*Monthly Allowable*

c. **Work Practices**

Work Practice BAT will typically describe how an owner or operator will operate a source in order to cost-effectively minimize emissions. This approach should be used when the primary method of control consists of work practices, not things like control equipment, material used, etc. There are a number of different ways to do this depending upon the type of source. An example is given below:

Unpaved Roadway Example

Under the revised BAT approach, the primary approach for fugitive roadways is to require the permittee to develop and implement a site-specific work practice plan designed to minimize or eliminate fugitive dust emissions. Under this approach, no opacity limit is needed and no ton/yr limit is needed. However, under this approach, the work practice plan will need to include the following items:

- An identification of each segment of unpaved roadway or parking area for which the plan applies.
- A determination of the frequency that the roadway or parking area will be inspected to determine if additional control measures are needed.
- The identification of the record keeping form that will be used to track the inspection and treatment. This form should include, at a minimum, the following elements:
    - Roadway or parking area segment inspected

  - Date inspected
  - Name of employee doing the inspection
  - Result of the inspection (needs treated or does not need treated)
  - A description of why no treatment was needed
  - Date treated
  - Name of employee treating the segment
  - Method used to treat the segment

- A description of how and where the records shall be maintained. Records must be kept for at least five years.
- A description of the records that must be submitted if the plan is not followed. This would follow the Standard Terms and Conditions deviation requirements.

There can be other options for *Work Practice* BAT for roadways. For instance, the 1-minute/3-minute limitation approach can be used if the company states they want that approach. There can also be other types of *Work Practice* BAT for different types of fugitive sources. Permit writers should work closely with the permittee and with their central office permit review contact to determine if a particular approach is approvable.

The *Work Practice* BAT will not have any kind of initial testing, but will typically have monitoring, record keeping and reporting requirements to verify that the work practice is being done. There will not be anything listed in the testing section of the permit.

d. **Source Design Characteristics or Design Efficiency of Applicable Air Contaminant Control Devices**

Source Design Characteristics

For some sources, BAT may be a *Source Design Characteristic*. When we say *source design characteristic*, we are really talking about a design characteristic as it relates to emissions. For instance, if a gas-fired boiler has a burner that is designed to achieve 0.1 lbs of NOx/mmBtu emission rate, then the *Source Design Characteristic* will be the 0.1 lbs NOx/mmBtu rate. Another example of a design characteristic is a 0.1 lb PM/100 lbs charged emission rate for an incinerator. If the incinerator was designed to meet this

emission rate, then it would be appropriate to use that design emission rate to express BAT.

Both sources with or without controls can have a *Source Design Characteristic.* In either case, the *Source Design Characteristic* will be a short-term emission rate, not a control efficiency. If BAT is desired to be a control efficiency for the control device, then the BAT will use the *Design Efficiency* approach discussed next.

Note that under the *Source Design Characteristics* or *Design Efficiency* approach, **no ongoing emission rate limit will be established for BAT**[9]. Instead, the owner/operator will be required to *design* the source to meet the described BAT. This is an important difference from the current approach of setting a short-term (lb/hr, ppm, etc.) limit that must be met at all times. Below are a couple of examples of how BAT should be expressed in this case:

- Install a FGD or equivalent SO2 control technology that shall have at least a 95% design removal efficiency for SO2 at maximum rated capacity
- Install a baghouse that is designed to meet 0.03 gr PM/dscf
- Install an incinerator that is designed to meet 0.1 lb PM/100 lbs charged
- Install a burner that is designed to meet 0.1 lb NOx/mmBtu heat input

When trying to decide if a *Source Design Characteristic* exists for a source without controls, permit writers should ask the permittee to provide the design specification sheet (as related to emissions) from the manufacturer of the equipment. If the design specification sheet contains design specifications for NOx, PM, but not SO2, CO or VOC, then *Source Design Characteristic* BAT can be set for NOx and PM, but not for SO2, CO or VOC.

For those pollutants where there is no design characteristic, BAT will most likely be set based on either the *Raw Material/Throughput* type limit or the *Monthly Allowable* type limit.

Note Ohio EPA expects *Source Design Characteristics* to be requirements for the front-end design of the source, not an emission limit.

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9 Although no ongoing emission rate limit will be established, owners/operators will be required to maintain the equipment following manufacturer's recommendation in order to ensure the equipment continues to operate as designed. Also note that although there will not be a short-term limit for BAT, non-BAT short-term limits will typically be included in the permit because they are required by existing OAC rules.

For some source types, *a numerical Source Design Characteristic* may not be appropriate the BAT expression. Instead, the *Source Design Characteristics* may also be things like a description of the equipment installed that has the impact of reducing emissions. An example of that approach is for degreasers or cold cleaners where the BAT expression would simply be described as the use of cooling coils and lids. Another example would be for the use of a complete enclosure on a material conveyor.

Design Efficiency

When a source utilizes a control device, BAT will be either a *Source Design Characteristic* (as described above) or a *Design Efficiency* of the control device. If a *Design Efficiency* method is chosen, then the BAT determination would be in the form of a designed percent control efficiency. A couple of examples of how this BAT should be described are:

- Install an electrostatic precipitator with a design control efficiency of at least 98.7% control of PM
- Install an incinerator on the paint line oven with a design control efficiency of at least 95% control of VOC

If the source has not been designed to meet a certain emission level, or the control device has not been designed to meet a specific control level or have other emissions control design characteristics, then the *Source Design Characteristics* or *Design Efficiency* BAT approach is probably not the appropriate approach to use and another approach should be chosen.

When a BAT limit is based on the *Source Design Characteristic* or *Design Efficiency*, ongoing compliance is not expected. Instead, this type of BAT is simply a design standard that needs to be met initially. No ongoing BAT compliance obligations exist. No monitoring, record keeping or reporting requirements should be included. When BAT is expressed as a *Source Design Characteristic* or *Design Efficiency*, a one time performance test may be required to confirm proper design, depending on the nature of the controls or process design, the pollutant, and the size and location of the air contaminant source, but periodic stack testing or other ongoing monitoring is not required or appropriate. It is acceptable to include in the testing section a description of the basis for the *Source Design Characteristic* or *Design Efficiency* BAT. Some examples include:

- If the burner was designed to meet 0.01 lb NOx/mmBtu heat input, for the testing section you might say, "Based on Burner Manufacture Inc. design specification sheet #xxx dated January 23, 2014."

- If the emissions unit has an incinerator and BAT was chosen as a control efficiency of 98% destruction efficiency, then in the testing section you might say, "Based on Incinerator Inc. design specification sheet #xxx dated January 23, 2014."
- In the case where the company has done their own design or has modified the equipment such that the original design specification is no longer valid, you might say, "Based on the company supplied design estimate as supplied in the Permit-to-install and Operate (PTIO) application #453234 received January 23, 2014."

Owners/operators will, however, be required to maintain the equipment following manufacturer's recommendations in order to ensure the source continues to operate as designed. The owner/operator should be required to keep a record of the maintenance on the unit along with manufacturer's recommendations.

If a BAT limit is established for the *Source Design Characteristics* or *Control Efficiency* then no ton/yr or other limit should be included for BAT. Also, remember, that if there are different operating scenarios, BAT limits may need to be established for each scenario.

e. **Raw Material Specifications or Throughput Limitations Averaged Over a Twelve-month Rolling Period**

This particular type of BAT is essentially the same as we have used for years to support synthetic minor type limits. An example of this kind of BAT for a rotary grain dryer at a brewery could be "5000 tons of wet grain processed per rolling 12-month period". Another example could be "45.6 tons of steel produced/Rolling 12-month period".

This type of BAT will have an ongoing compliance obligation that includes monitoring, record keeping, and reporting to verify ongoing compliance with BAT. In the testing section it is acceptable to describe the compliance method for the limit. In most cases, initial verification of the processing rate is not needed. However, in some cases it may be desirable to verify the rate so it is acceptable to require initial verification of the processing rate.

Note that under this BAT, no "short term" BAT limit will be listed. For instance, there will not be a ton of wet grain per hr, per day, or per month type limit.

Note also that if the source is a synthetic minor source, the above type limit will be needed for the synthetic minor and, in that case, short term limits may be needed in order to meet U.S. EPA's requirements for synthetic minors. In that case, the permit

writer has the option of using the synthetic minor *Raw Material/Throughput* limitation approach as BAT (i.e., have it function as both the synthetic minor limit and the BAT limit) or, instead, establish a separate BAT as a *Source Design Characteristic, Design Efficiency,* or *Monthly Allowable* limit.

f. **Monthly Allowable Emissions Averaged Over a Twelve-month Rolling Period**

This is another type of BAT that is essentially the same as we have used to support synthetic minor type limits. It is similar to the above material/throughput BAT except that emissions are restricted instead of the amount of material processed or product throughput. An example of this would be, "3.21 tons VOC per month averaged over a twelve-month rolling period[10]".

This type of BAT will often have an ongoing compliance obligation that includes monitoring, record keeping, and reporting to verify ongoing compliance with BAT. You have the option to require initial testing to verify that the emission rate used to develop the tons permit month limit is appropriate. However, you would not put any ongoing testing obligation within the permit. It is acceptable to describe in the testing section how the tons/month limit was established.

In some cases where the amount of emission is small and we are relying on an emission factor for the compliance determination, then it may not make sense to require monthly monitoring, record keeping and reporting. Instead, it is acceptable to simply include in the testing section a description of the compliance method using the emission factor.

For instance, if you have a 20 mmBtu/hr natural gas fired boiler, the emissions of particulate are expected to be very small, say 1.0 tons/yr. The limit would be 1.0 ton/yr / 12 months = 0.83 tons of PM per month averaged over a twelve-month rolling period. The compliance method would simply be the maximum heat input rate times the AP-42 emission factor for particulate. Each month this calculation would be the same so there is really no need to require monthly records. Instead, it is acceptable to only include the compliance determination language in the Testing Section of the permit and skip any monitoring, record keeping and reporting. This follows past practice when we were establishing ton/yr BAT limits.

Under this BAT, no "short term" BAT limit will be listed[11]. For instance, there will not be a pound of VOC per hr or per day type limit.

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10 See the response to Question 24 later in this memo.

11 Note that a short-term limit will often be needed either because of existing OAC rules or to support a synthetic minor restriction in order to follow U.S. EPA requirements.

g. **Deciding Which Option Is Most Appropriate**

Since there are four optional ways BAT can be expressed under the S.B. 265 language, it can sometimes be difficult to decide which option is most appropriate for the source or source category. **You should consider the recommendation from the owner/operator of the source as to which option fits their facility best as part of this decision.** In order to help determine which BAT format is most appropriate, DAPC is recommending the following approach in the following order:

i. If the source is a traditional fugitive type source (roadways, parking areas, etc.) or a source that Ohio EPA has not typically established a short-term type BAT limit (degreaser), then it is recommended you use the *Work Practices* type expression for BAT. You do, however, have the option of using one of the other BAT expressions.

ii. If the source has a control device for the particular pollutant, then use either the *Source Design Characteristic* or *Design Efficiency* approach where you determine the basis of the control equipment designed to control the pollutant. This is typically a ppm, gr/dscf, etc., or control efficiency type expression for BAT.

iii. If there is no control device, review the manufacturer's specifications for the source to determine if the source was designed to meet a certain emission rate (the *Source Design Characteristic* approach). If the source was designed to meet a certain emission rate, then use that expression type for BAT.

iv. If none of the above applies, then you will typically be using the *Monthly Allowable* expression approach where you establish a ton of emission per rolling 12-month period BAT type limit.

v. As an option, the *Raw Material/Throughput* approach can be used. However, it is recommended that the permit writer use the *Monthly Allowable* in most cases, instead.

Note, that under S.B. 265, Ohio EPA cannot include more than one BAT requirement per pollutant per operating scenario. So, only use the one expression of BAT. However, you are free to use another format as long as it fits within one of the four categories listed in S.B. 265 and is considered most appropriate for the applicable source or source category.

Note that it is important to consider the owner/operator's preference as to which option works best for their operation. So, permits writers should review and

understand the owner/operator's recommendation before deciding the most appropriate method to describe BAT. The director has the final say on which option is the most appropriate method.

Remember, BAT is only one of the applicable requirements that apply to a source and the source owner is obligated to meet all other emissions standards, including short-term limits, which apply to the source.

Also remember that if the source has multiple operating scenarios, then you should determine BAT for each operating scenario using the above procedures.

If you determine BAT based on a case-by-case approach, then use ORC 3704.03(T) and OAC 3745-31-05(A)(3) as the applicable rule citation associated with the BAT limit.

Develop the testing requirements needed to support the BAT selected. In many cases, this will simply be detailing the method used to calculate emissions. However, for larger sources where initial compliance testing is needed, it will be detailing the calculation method and describing the initial emissions testing that will be needed to determine compliance.

vi. Next, it is recommended you provide the permittee with a copy of the terms of the permit and discuss with them the decisions you made to determine BAT. Let them know of the current issues associated with S.B. 265 and advise them of their options associated with BAT.

vii. Your decision concerning the establishment of BAT under this guidance should be documented in the Permit Strategy Write-up document in STARS2. This serves two purposes. First, the potential to emit level and basis are documented outside of the terms and conditions and this can be relied on in the future to determine whether the air contaminant source has undergone a Chapter 31 modification. Second, in the event that a company has decided that they will not accept a BAT requirement in accordance with this memo, this document can be shared with U.S. EPA who has requested to be notified in these instances.

viii. Process the permit per our normal procedures from this point.

5. Common Questions and Answers

MACT/GACT Issues

Question 1. *If a MACT applies and the MACT does not include an annual limit, can we establish an annual limit as part of BAT?*

No, if the MACT applies, then only list the limits/control requirements/operational restrictions as BAT. Do not add any other limits.

Question 2. *What happens if both a MACT applies to a source and a RACT rule applies to the source? Which is BAT? What happens if there is a similar source RACT rule that is more stringent than the MACT?*

If MACT applies to the source and a RACT rule applies to the source (actually applies, not because it is a similar source under step 3 above), then MACT would represent BAT.

If MACT applies to the source and a "similar source" RACT rule could apply under step 3 above, the MACT is BAT, not the "similar source" RACT.

Question 3. *When specifying GACT-like BAT in permits should the permit only include numerical emission limits from the GACT? Should we cite the GACT rule?*

If the GACT has numerical emission limits then use those as BAT for the pollutant controlled by the GACT. If the GACT has work practice standards (e.g., employ tight-fitting covers) that have the effect of limiting emissions of the pollutant controlled, then use the work practice standards to express BAT. If the GACT has only recordkeeping requirements, then do not use them as an expression for BAT.

If you use the GACT to determine and describe BAT, you normally will not cite the GACT rule as an applicable requirement. Instead, you are simply using the GACT control levels/practice standards as what you are going to describe as BAT. This is because Ohio EPA has chosen not to accept delegation of the GACTs except for in rare cases. If you think you should be citing the GACT rule, then discuss this issue with your central office permit review contact.

Remember, that GACT rules were developed under 112(k) of the CAA and primarily include work practice standards for area sources.

Question 4. *Does the GACT rule get IBR's per EG #76?*

In most cases, since we are not accepting delegation for the GACT, the answer would be no. However the permit might need to include the GACT-like (or identical) M/R/Rp that supports the emission limit or work practice standard to support the BAT determination.

If we decided to accept delegation of the GACT for that permit, then the answer would be yes, you do need to use the IBR process permit Engineering Guide #76.

Question 5. *If a GACT-like emission limit is included in the permit should the permit terms require emission testing for the limit if the GACT rule requires testing? The GACTs for the many spark ignition and compression ignition engines often have testing requirements.*

If we decided not to accept delegation for the GACT (by deciding not to cite the GACT rule), then don't include emissions testing. If we decided to accept delegation, then do include the IBR the GACT rule and include the testing requirements. Accepting delegation should only be done in rare cases. See the response to Question 3.

Question 6. *The miscellaneous surface coating GACT preamble indicates that rule primarily addresses metal HAP through the control of particulates. Other GACT rules address organic HAPS but not VOC. SB265 addresses criteria pollutants and their precursors. How is this handled?*

If the GACT rule also has the effect of limiting criteria pollutant/precursor emissions (e.g., use of a baghouse for particulate) then this would likely satisfy BAT. If the GACT controls only have the impact of limiting a single HAP, and the controls do not control all of the compounds that constitute the criteria pollutant/precursor pollutant grouping, then the GACT controls would not be sufficient for BAT. For example, if a GACT is designed to limit chromium emissions by limiting the amount of chromium allowed in a coating for spray painting, then that GACT limitation would not be sufficient to be used for particulate emissions because limiting chromium in coatings does not limit all particulate from painting.

Question 7. *What is BAT if a GACT doesn't apply to an emissions unit (e.g., there is an exemption within the GACT rule) but the emissions unit is in the same source category covered under the GACT?*

It is acceptable to review the GACT to see if the GACT-like controls make sense as BAT for the source. However, if U.S. EPA exempted the source from the GACT, it is likely done for good reason so it is also likely that we would not consider the use of the GACT-like controls as BAT. So, in most cases, the answer would be that BAT is not equivalent to the GACT-like controls. If you think your situation is different, discuss the issue with your central office permit reviewer.

Reviewing BAT Issues

Question 8. *My understanding is that when we are looking for potential BAT options, we should look to see what other states require for similar sources. Is this a new requirement? When looking at other States in determining BAT, how much resources should be expended?*

No, this is not a new requirement. BAT options should consider what other states have required for similar size and type air pollution sources. However, in most cases, a review of what Ohio requires in similar permits is all that is needed because we already have a pretty good idea what BAT should be for the sources.

Although reviewing other State's requirements is always acceptable, for most standard small to medium sources this is not necessary. It is more likely that you will need to do this kind of review when you are dealing with an unusual source or with larger sources where controls may not be well known and you need to do some additional research. Spend more time in the evaluation for larger units or units that don't have similar permits in Ohio. Make sure to evaluate States with similar air quality (i.e., do not use areas in serious nonattainment such as southern California). You can look at what other states have in their rules, in their general permits, in their permit-by-rule type programs, or in any BAT-like programs.

Question 9. *The guidance says to follow current practices for cost effectiveness determinations. Are these practices documented somewhere?*

Engineering Guide #46 gives a detailed explanation of how cost-effectiveness determinations should be done. See: http://epa.ohio.gov/Portals/27/engineer/eguides/guide46.pdf . In addition to Engineering Guide #46, permit writers should review the document, "Proposed Engineering Guide XX "Is a Best Available Technology Study Needed?" found under tab 6 in Appendix B of the March 20, 2002 DAPC Permitting Manual. This can be found on the DAPC Intranet at: http://epaintra.epa.ohio.gov/dapc/Home.aspx#2620225-permit-resources . Although this document was never finalized as an Engineering Guide, it does contain some useful guidance concerning the approach permit writers should use when it comes to deciding when a cost-effectiveness study is needed.

Work Practice Issues

Question 10. *For BAT for paved/unpaved roadways do we stay with the traditional BAT opacity 1-minute/3-minute limits? What about the "minimize or eliminate" language?*

The 1-minute/3-minute limit approach will not normally be used unless the permittee specifically requests it. Note that opacity limits specified in OAC Chapter 3745-17 still apply and are not affected by the latest BAT guidance. The "minimize or eliminate" language will be used as a criteria to determine if the roadway segment needs to be treated.

Question 11. *Can a work practice include additional descriptors of when controls are needed?*

In most cases, the descriptors of when controls are needed will be described in the control plan the company develops, so, we will not be putting these in the permit. If the control plan is developed and decided before the permit is written, then it is acceptable to insert the text of the control plan into the permit. However, only insert the text into the permit if the company prefers that approach.

Question 12. *For new installations of fugitive sources how will the permit writer know what is acceptable?*

The permit writer will write terms that require the permittee to develop and implement a control plan designed to minimize or eliminate fugitive dust. After the permit is issued, the permittee will need to submit the plan to Ohio EPA for review. The permit writer will need to review the plan to verify that, if implemented, it will result in the minimization or elimination of fugitive dust.

Question 13. *Do the General Permits (GPs) need to be revised under this latest BAT guidance?*

GPs will need to be updated to take into account the revised BAT approach. Until they are updated, however, the current GPs can continue to be issued if the company prefers to obtain one. A company applying for a GP today will get the current GP terms and conditions. If the company does not want the current GP because they want the new BAT approach, then they need to apply for a case-by-case permit.

Question 14. *Will EAC forms need to be updated?*

DAPC is not aware of any need to update the EAC forms due to the revised BAT approach. If a DO/LAA thinks an EAC form needs updated please inform Mike Hopkins.

Question 15. *Will updates be made to the STARS Library for this latest BAT guidance? What about a clearinghouse or common location for the latest BAT determinations?*

Any terms that are developed based on the revised BAT approach can be routed to Cheryl Suttman so she can include them in the Terms and Conditions Library.

Source Design/Design Efficiency Issues

Question 16. *Will the "design to" standard be included in the testing section of the permit along with possible "If required...testing" language?*

In most cases no, unless an initial test of the design efficiency is needed. Initial testing requirements should be established based on current permitting practices.

Question 17. *In cases where a design specification is tied to a an operating parameter (e.g,, minimum 1400F in the combustion chamber of a thermal oxidizer to achieve a 95% destruction efficiency) will it be necessary to specify the operational standard in the permit?*

No. In the case where we are setting BAT based on a *Source Design Characteristic* or *Source Design Efficiency*, you will not need to put any type of operational restriction into the permit. In the above described case, BAT would be described as, "Install a thermal oxidizer designed to achieve 95% destruction of VOC emissions". If it is decided that initial testing is needed, then a term would be added to require the initial testing. Then, the only additional terms would be terms that required the company to maintain the equipment following manufacturer's recommendations and to keep records of the maintenance following manufacturer's recommendations. No other terms will be needed to support the BAT limit.

Note that other federal rules or state rules (e.g., the CAM rule under 40 CFR Part 64, OAC rules) can apply and establish additional requirements.

Question 18. *What if there are no manufacturer's specs on a piece of control equipment or the company manufacturers its own control equipment?*

The company will need to create their own maintenance procedures for that control equipment and the DO/LAA will need to agree that it is adequate.

Question 19. *What is the procedure if there is an indication that the control equipment is not meeting the design standard?*

The first step is for the DO/Laa to ask the permittee to provide them with the maintenance records and verify that the permittee has been complying with the necessary maintenance and maintenance recordkeeping. If they have not been doing so as required under the permit, then an NOV would typically be needed to inform them of the violation.

If the permittee has done the maintenance as required but there still seems to be something not working with the controls, then Ohio EPA can ask for an emissions test. This is because the director retains broad authority to require emissions testing under OAC Chapter 3745-15 and this could be pursued following normal course of action (warning letter, NOV etc...). Note, however, testing would not be for determining if the design standard is being achieved, but if compliance with other applicable OAC rules is being achieved (since the design spec is only an "initial" requirement and not an ongoing requirement). The test results may also be used as an indicator to determine if the expected maintenance has been done. However, the test results will not be able to be used to determine if the permittee is in compliance with the *Design Characteristic* or *Design Efficiency* listed in the permit because these are not limit, just design standards.

Question 20. *When processing a PTIO renewal for which emission testing is required for a BAT limit, is there any problem requiring the test per the permit terms if a similar new or modified emissions unit will not be required to test under the latest BAT guidance?*

If an existing permit has a testing requirement that has not been met, then we can require them to do the test.

If an existing permit has a BAT limit based on the historical approach (limit instead of design standard), and we think the source is not in compliance, then, yes, we can require them to test. This is true even if we would use the design standard approach for a new, similar source today.

Monthly Allowable Issues

Question 21. *Has the guidance changed the way that annual emission averaging is performed using monthly emission records?*

We think that the end result is the same although the calculation is slightly different. See examples in the guidance. Also note that synthetic minors will continue to follow current policy of including a 12-month table during the initial year following installation where sufficient records do not already exist and can include higher levels during certain months of the 12-month period.

Question 22. *Do Chapter 31 Modifications follow the new BAT guidance?*

Yes. RE-evaluate BAT using the current guidance for any pollutant(s) experiencing an increase in allowable emissions.

Question 23. *Do applications received in September for which the permit will be issued after February 7, 2014 need to follow the latest BAT guidance? What about permits that are out as draft but won't be issued until after February 7, 2014?*

Yes, BAT within the permits should be converted to the new BAT approach. However, if we have already issued the draft, and the company does not want us to take the time to convert to the new approach, then we can issue the final with the old approach.

Question 24. *I have noticed that S.B. 265 uses the term "Monthly allowable emissions average over a twelve-month rolling period". Historically, we have used the "tons of emission per rolling 12-month period" type limit. What is the difference?*

From a compliance perspective, there is no difference between these two descriptors. They both result in the same restriction. The only real difference is that the limit is listed as a monthly limit or a 12-month limit. Since the monthly limit is based on a 12-month average, the limits end up being the same. To explain, here is an example:

Company name: Hubcap Painting, Inc.
Source: Hubcap painting booth
VOC content: 3.5 lbs VOC/gallon of coating
Maximum coatings that can be used in a year (potential): 20,000 gallons/year

How do you calculate the "monthly allowable emissions averaged over a twelve-month rolling period"?

(20,000 gallons of coating)/Year × (3.5 lbs VOC)/Gallon × Ton/(2000 lbs) × (1 year)/(12 months)=2.92 (Tons VOC)/Month

This is equivalent to 2.92 tons VOC/month on a 12-month average

Compliance would be determined by calculating the actual emissions from the past 12 months, dividing it by 12 to get the monthly average and comparing it to the 2.92 tons VOC/month on a 12-month average.

How do you calculate the "tons of emission per rolling 12-month period"?

(20,000 gallons of coating)/Year × (3.5 lbs VOC)/Gallon × Ton/(2000 lbs)=35 Tons/Year

This is equivalent to 35 tons VOC/12-month period.

Compliance would be determined by adding up the actual emissions for the past 12 months and comparing it to the 35 tons VOC/12-month period limit.

These limits end up the same. The only difference is that one is divided by 12 to get a monthly average.

Although there is no difference, Ohio EPA is asking permit writers to use the "monthly allowable emissions averaged over a twelve-month rolling period" language when describing BAT because that reflects the language in the law.

Question 25. *I am working on a permit and the company says they don't want their BAT limit expressed as a "monthly allowable emissions averaged over a twelve-month rolling period" and would, instead, prefer the limit expressed as a "tons of emission per 12-month rolling period". Is it ok to use the tons of emission per 12-month rolling period approach in this case?*

If you get something in writing from the company saying they would prefer the tons of emission per 12-month rolling period approach then it is acceptable to use this approach.

Potential to Emit Issues

Question 26. *Can we continue to determine PTE after controls for major NSR applicability purposes?*

This answer will depend upon which BAT option is selected, and whether or not additional voluntary terms have been added to make sure the restriction meets the federally enforceable requirements and/or the practical enforceable requirements by the state. A discussion of each of the BAT options is provided below:

Work Practice – Work Practice BAT will no longer have an emission limit associated with it. PTE should be based on the maximum potential emissions taking into account the use of the work practice control measures.

Source Design Characteristic or *Design Efficiency* BAT – DAPC will accept a *Source Design Characteristic* or *Design Efficiency* BAT to limit PTE for NSR purposes. Remember, you may need more than just this BAT to restrict PTE to meet U.S. EPA synthetic minor restrictions. If you are establishing a synthetic minor, you will need to follow U.S. EPA's Limiting Potential to Emit guidance.

Raw Material/Throughput BAT – This type of BAT can be used to restrict PTE although you will need more restrictions to meet U.S. EPA requirements for synthetic minors including

the need to establish a rolling emission limitation and possibly to include a short-term limit. You will need to follow U.S. EPA's Limiting Potential to Emit guidance which will require a limitation on emissions and will require the permit to be issued draft, then final.

Monthly Allowable – This type of BAT can be used to restrict PTE because it is practically enforceable by the State. However, if you are establishing a synthetic minor permit, you will need to follow U.S. EPA's *Limiting Potential to Emit* guidance which will require a limitation on a process variable and will require the permit to be issued draft, then final.

Note that the above answers apply to major NSR applicability and not necessarily to Title V applicability. For Title V applicability, the PTE is calculated before controls unless the controls are federally enforceable through a PTI or other means. See Engineering Guide #80 for more details on Title V applicability and PTE.

Question 27. *Can we use the source design/design efficiency BAT as an acceptable restriction for PTE?*

A source design/design efficiency value established as BAT in a permit can be used to limit PTE for all NSR actions, including emissions units covered under PSD permits. This change will result in more natural minors and more sources that can start construction per OAC rule 3745-31-33. In addition more permits can be issued as direct-final actions. It is possible that U.S. EPA will not agree with this interpretation. Discuss with the company and let them know that U.S. EPA might object to this interpretation of limiting PTE.

Note that for Title V applicability, you would still calculate PTE before controls.

Question 28. *What effect does this have on ensuring that the limit on PTE is both legally and practically enforceable?*

Ohio EPA believes that the limits established under this guide for BAT are legally and practically enforceable.

Question 29. *Does this PTE interpretation result in more/less emission testing for source compared to before?*

The PTE interpretation should not affect the frequency of emissions testing. Generally testing is required for larger sources and not for smaller sources. The latest BAT guidance does not change this.

Question 30. *If emission testing is not required how will the true PTE be known for the "designed to" BAT?*

Use the "designed to" standard as the basis for PTE.

Question 31. *Can source design characteristic/design efficiency BAT limits limit PTE for Title V applicability determinations as well?*

Yes, this type of BAT limit can be used to limit PTE except that when there are add-on controls, you must determine PTE before controls.

Question 32. *Is PTE still evaluated at 8760 hrs/yr?*

Yes

Miscellaneous Issues

Question 33. *When we establish a BAT limit using this new guidance, what do we put in the various sections of the permit?*

As a guide, the following chart identifies when you would or would not include information in each major section of the permit.

Recommended Monitoring/Record Keeping/Reporting/Testing for BAT				
	Section of the Permit			
BAT Option	Monitoring	Record Keeping	Reporting	Testing
Work Practice	Yes	Yes	Yes	No
Source Design Characteristic Design Efficiency	No	No	No	Describe calculation method/assumptions for BAT; Include any needed initial test requirement.
Raw Material/Throughput	Yes	Yes	Yes	No except to include any needed initial test requirement.
Monthly Allowable	Yes	Yes	Yes	Describe calculation method/assumptions for BAT; Include any needed initial test requirement.

Question 34. *Do we use the new BAT approach when we are establishing BAT for <10 ton sources?*

Yes, permit writers should use the new approach to describe BAT for <10 ton/yr sources. We will continue to use the dual approach (BAT is developed and described for <10 ton sources and BAT goes away once the <10 ton BAT rule exemption is approved as part of the SIP).

If a company does not want us to put BAT in the permit for their <10 ton source, bring this issue up with your central office contact.

Question 35. *If a company indicates they do not want Ohio EPA to establish a BAT requirement because a BAT rule has not been developed, what should the permit writers do?*

Bring the issue up with your Central Office DAPC permit contact for further guidance. We will discuss options with the company including: (1) agree to establish a BAT requirement following this guidance, (2) ask us to process the permit without a BAT requirement, or (3) ask us to process the permit with a voluntary restriction on allowable emissions that is equivalent to BAT (see OAC Rule 3745-31-05(F)). If they choose option (2) or (3) we will inform them that U.S. EPA would likely not approve the permit and that U.S. EPA may take some sort of action against either the company or Ohio EPA. We will also inform them that we are obligated to provide U.S. EPA with a copy of any issued permit that does not contain BAT.

Question 36. *What happens if I am still not sure which type of BAT expression I should use?*

Contact your Central Office DAPC permit contact for further guidance.

Question 37. *Ohio EPA has used the BAT rule to establish used oil specification limits in the past. These limits have been established to ensure hazardous waste was not burned and to ensure air emissions would not cause health or welfare effects. Can we continue to use the BAT rule to do this?*

Yes. BAT can be expressed as a *source design characteristic* under S.B. 265, and fuel specifications can be included as a *source design specification* or *work practice*. You can continue to use our standard terms that restrict used oil contaminants to make sure the oil is not classified as a hazardous waste.

Question 38. *DAPC's interpretation of S.B. 265 is that only one BAT requirement can be established. What happens when an emission unit has more than one stack? For instance, consider a painting line often that has an emission point from the uncontrolled base-coat spray booth and then another emission point from an incinerator-controlled prime-coat spray booth. Can permit writers still establish a BAT requirement for each stack?*

No, a BAT requirement should not be established for each stack. Instead, you should decide which of the appropriate BAT approaches should be used to cover the entire air contaminant source and use it.

Question 39. *DAPC's interpretation of S.B. 265 is that only one BAT requirement can be established. What happens when an emission unit has more than one operating scenario? For instance, an asphalt plant typically operates using natural gas some days, #2 fuel oil on other days, or may use different raw materials (say, slag) on different days. The emission rate for SO2 in this case is significantly different for each fuel/material. What should we do for BAT?*

If the *Source Design Characteristic* approach is used, then a different BAT requirement for each pollutant should be established for each operating scenario where there is a difference in emissions. However, if the emission rate is the same for the various operating scenarios, then it is acceptable to establish one BAT requirement that covers all operating scenarios.

On the other hand, if a *Monthly Allowable* approach is used, then, even if different operating scenarios are used, only establish one BAT requirement that covers both operating scenarios.

Question 40. *According to the above guidance, no short-term BAT limits will be established when using the Source Design Characteristics and Design Efficiency BAT options and there will be no on-going short-term compliance obligations. Does this mean that sources can operate their equipment at higher emission rates than the Source Design Characteristics or Design Efficiency BAT determinations?*

If the facility is operating the equipment at an emission rate that is higher than the design standard, then it is likely that the equipment has not been maintained. To address this issue, facilities will be required to follow maintenance procedures developed by the manufacturer. This will ensure that the equipment is operating as designed.

Question 41. *We normally model the short term emission rates if the annual emissions are over our modeling thresholds. Since there will be no short-term emission rates, what do we do?*

If the annual emissions are over the modeling thresholds, then modeling should be completed. In the case where we are setting BAT based on a *Source Design Characteristic* or *Design Efficiency*, modeling should be based on the short-term BAT *Source Design Characteristic* or *Design Efficiency* selected. In the case where we are setting BAT using the *Work Practice, Raw Material Throughput* or *Monthly Allowable* approach, modeling should be based on the short-term potential to emit. If the source cannot pass modeling based on

these short-term design values/PTEs, then tighter short-term limits will need to be established. These tighter limits will not be BAT limits, but will, instead, be voluntary limits in order to pass modeling.

Question 42. *When should we start using this guidance?*

With the exception described in the response to questions 44 and 45, this guidance applies when BAT must be determined for any new or modified[12] source that was installed or modified on or after February 7, 2014. This guidance does not apply when BAT terms and conditions are being administratively modified.

Question 43. *If I am processing a permit for a source that was installed or modified some time ago, how do I determine BAT for that source?*

Except for the situation described in the response to questions 44 and 45, BAT should be determined for after-the-fact permits following the guidance that existed when the source was installed or modified[12]. To help determined which guidance document should be followed, DAPC has developed a chart that describes the timeline for various guidance documents. This chart can be found as *Appendix A* of this document.

Question 44. I have heard that, because of an ERAC decision, we should not be establishing short-term BAT limits (lbs/hr, ppm, X% opacity) for sources installed after August 3, 2009. Is this true?

Yes, that is true. In *Martin Marietta vs. Korleski*, ERAC ruled that the short-term BAT limits (opacity limits for fugitive sources) found in the Martin Marietta permit did not meet the requirements in SB 265 because SB 265 does not allow short-term limits for BAT. This means that if we get a permit application for a source installed or modified between August 3, 2009 and today, we should process the permit using this guidance.

Question 45. If that is true, what should we do with the exiting new and Chapter 31 modified permits that have these short-term BAT limits?

There is a subset of permits/limits that we will need to change. Any installation permit that was issued final for a new or modified source on or after August 3, 2009, and, has new or modified emissions units for which we have established a short-term emission limit as BAT should be revised to change the short-term BAT to one of the four options found in this guidance. We should make this change in the following circumstances:

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12 Modified in this case means that the source has tripped the modify definition in OAC Rule 3745-31-01.

1. *When the permit needs to be renewed,*
2. *When the source in question is modified (per a Chapter 31 modification), or*
3. *When the facility owner/operator requests we change the BAT limit.*

Note that when you do this change, you will need to evaluate the permitting situation to verify that no additional changes are necessary. For instance, we may have been relying on the BAT short-term limit in order to avoid major NSR. In that case, you may need to include some other limitation in order to properly avoid major NSR.

Question 46. What should I do when a company is violating one of the short-term BAT limits found in a permit for a new or modified source that was installed or modified on or after August 3, 2009?

If you find any violations of this type, please contact your Central Office enforcement coordinator before taking any action like issuing a notice of violation or requiring a compliance plan. Please note that this applies only to compliance matters for new or Chapter 31-modified sources that were installed or modified on or after Aug. 3, 2009.

If you have any questions or concerns about establishing BAT for particular source, please contact your Central Office permit contact to discuss.

MH/mh
Post090803BATv11Final20140207.docx

Cc: Craig Butler, Director
Bob Hodanbosi, DAPC
Laurie Stevenson, Dir. Off.
All DO/LAA Air Unit Supervisors
Drew Bergman, Legal
Andrew Hall, DAPC
All CO permit reviewers

Appendix A

Table Describing BAT Guidance Applicability

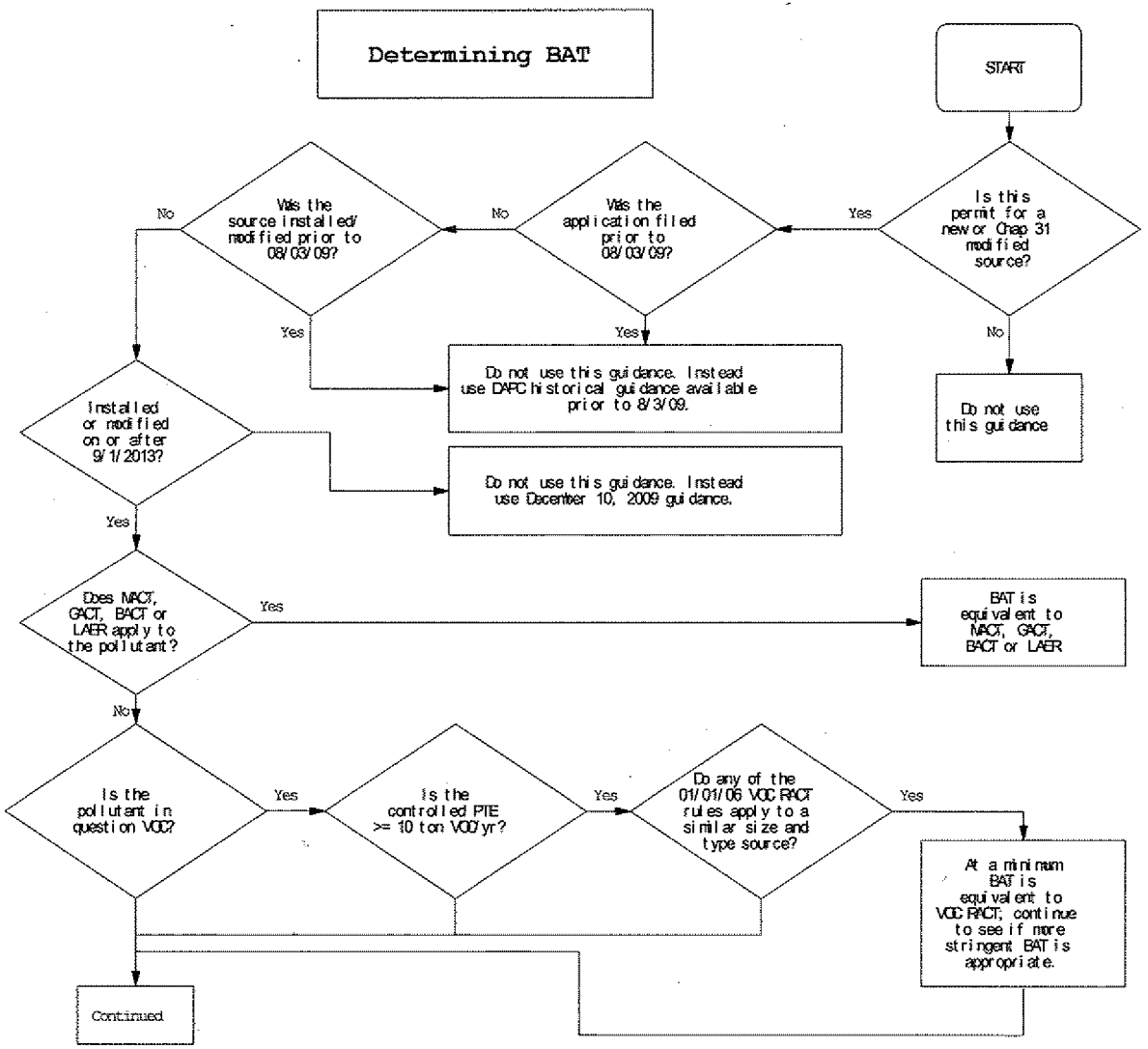
Time Period For Applicable BAT Guidance

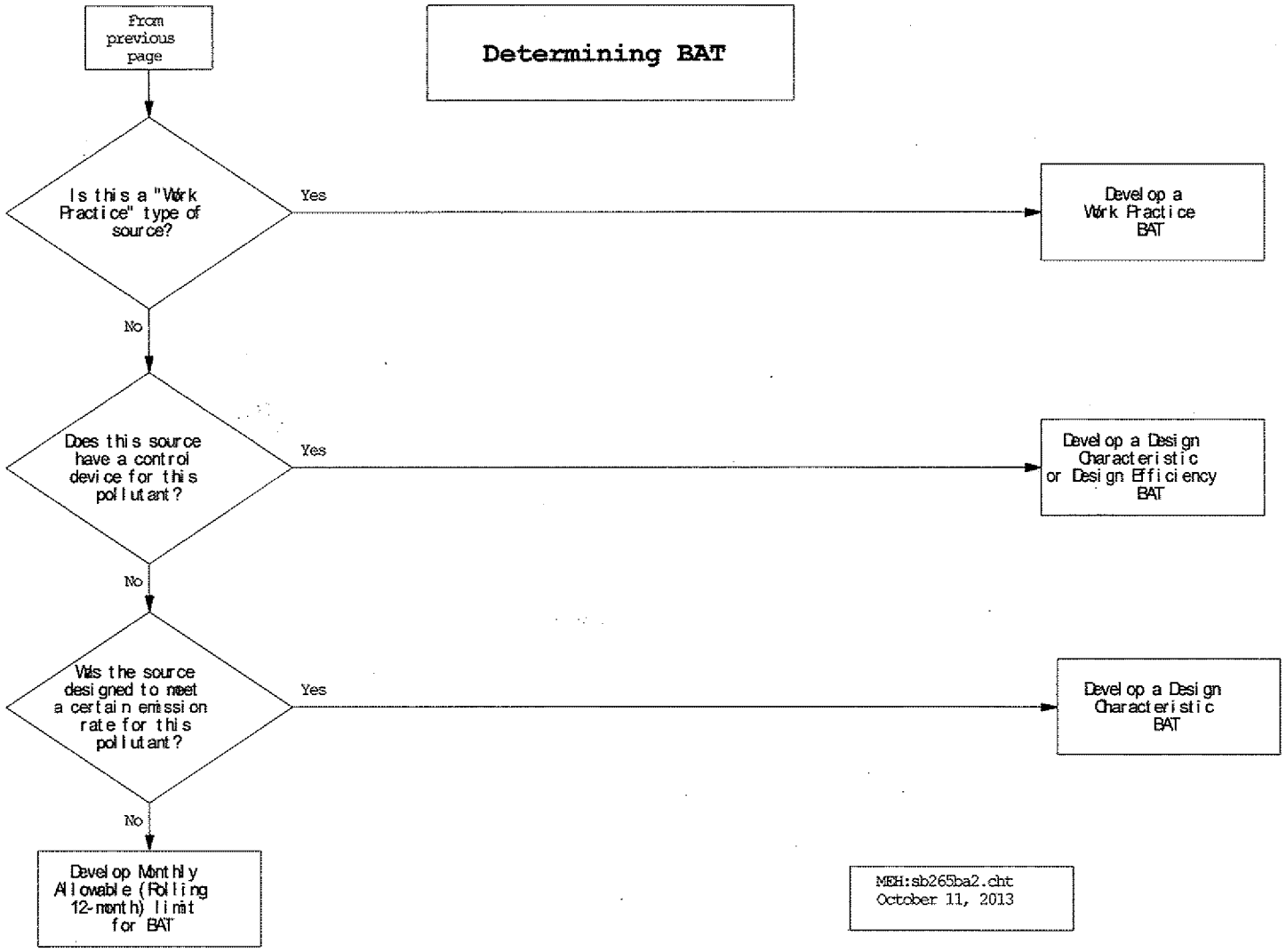
1/1/1974 | 8/3/2006 | 9/12/2006 | 3/1/2008 | 8/3/2009 | 10/1/2013 | 2/7/2014

Type of Limit Allowed	Case-by-Case BAT	Draft August 2006 Guidance	Draft Sept 2006 Guidance	March 2008 Guidance	December 10, 2009 Guidance	August 30, 2013 Guidance	Feburary 7, 2014 Guidance
Description of Guidance	Historical guidance used. Multiple guidance documents. Case-by-case BAT approach. Short term limits, annual limits, opacity limits, etc.	No BAT for <10 ton sources; effective for new or modifed issued on or after 8/3/2006; OK to get voluntary restrictions to avoid BAT; no discussion on >10 ton sources.	Same as Aug 2006 guidance except added flowchart, added more Q&As.	Same as Sept 2006 guidance except expanded examples and Q&A.	Detailed guidance on >10 ton sources; MACT, BACT, LAER; BAT expressed in one of 4 ways; Follow format of BAT expression table; RACT = BAT floor Nox & VOC; No BAT for PALs.	No short-term limits; no annual limits; "designed to meet" approach; not BAT opacity for fugitive; monthly on a rolling 12-month period; BACT/LAER/MACT equvalent; RACT floor for VOC only.	Update of the August 30, 2013 guidance; Switched to work practice plan for fugitive; No short-term limits after 8/3/09; Clarified multiple issues and Q&As; Added BAT guidance applicability chart.
BAT for <10 ton/yr Sources							
Short-term limits							
Fugitive opacity							
Annual (Ton/yr) Limits							
Multiple BAT Limits							
Rolling 12-month limits							
Monthly on a rolling 12-month period							
Separate for each operating scenario							
"Designed to meet" approach							
MACT/BACT/LAER equivalent							
RACT floor for VOC							
RACT floor for Nox							

- Approach was acceptable during this time.
- Approach could have been used but, instead, the typical tons/rolling 12-month period was used.
- Approach cannot be used during this period.
- "Dual" languge approach was used where BAT was listed and the "no BAT" approch was listed.
- Guidance says it is OK to use short-term limits but ERAC later said no. Any short-term limits should be switched to other limits when the permit is renewed or modified.
- Approach may have been used on a case-by-case basis.

Appendix B


Determining BAT
START
Is this permit for a new or Chap 31 modified source?
Yes
No
Do not use this guidance
Was the application filed prior to 08/03/09?
No
Yes
Was the source installed/ modified prior to 08/03/09?
No
Yes
Do not use this guidance. Instead use DAPC historical guidance available prior to 8/3/09.
Installed or modified on or after 9/1/2013?
Yes
Do not use this guidance. Instead use December 10, 2009 guidance.
Does MACT, GACT, BACT or LAER apply to the pollutant?
Yes
BAT is equivalent to MACT, GACT, BACT or LAER
No
Is the pollutant in question VOC?
Yes
Is the controlled PTE >= 10 ton VOC/yr?
Yes
Do any of the 01/01/06 VOC RACT rules apply to a similar size and type source?
Yes
At a minimum BAT is equivalent to VOC RACT; continue to see if more stringent BAT is appropriate.
Continued


From previous page
Determining BAT
Is this a "Work Practice" type of source?
Yes
Develop a Work Practice BAT
No
Does this source have a control device for this pollutant?
Yes
Develop a Design Characteristic or Design Efficiency BAT
No
Was the source designed to meet a certain emission rate for this pollutant?
Yes
Develop a Design Characteristic BAT
No
Develop Monthly Allowable (Rolling 12-month) limit for BAT
MEH:sb265ba2.cht
October 11, 2013